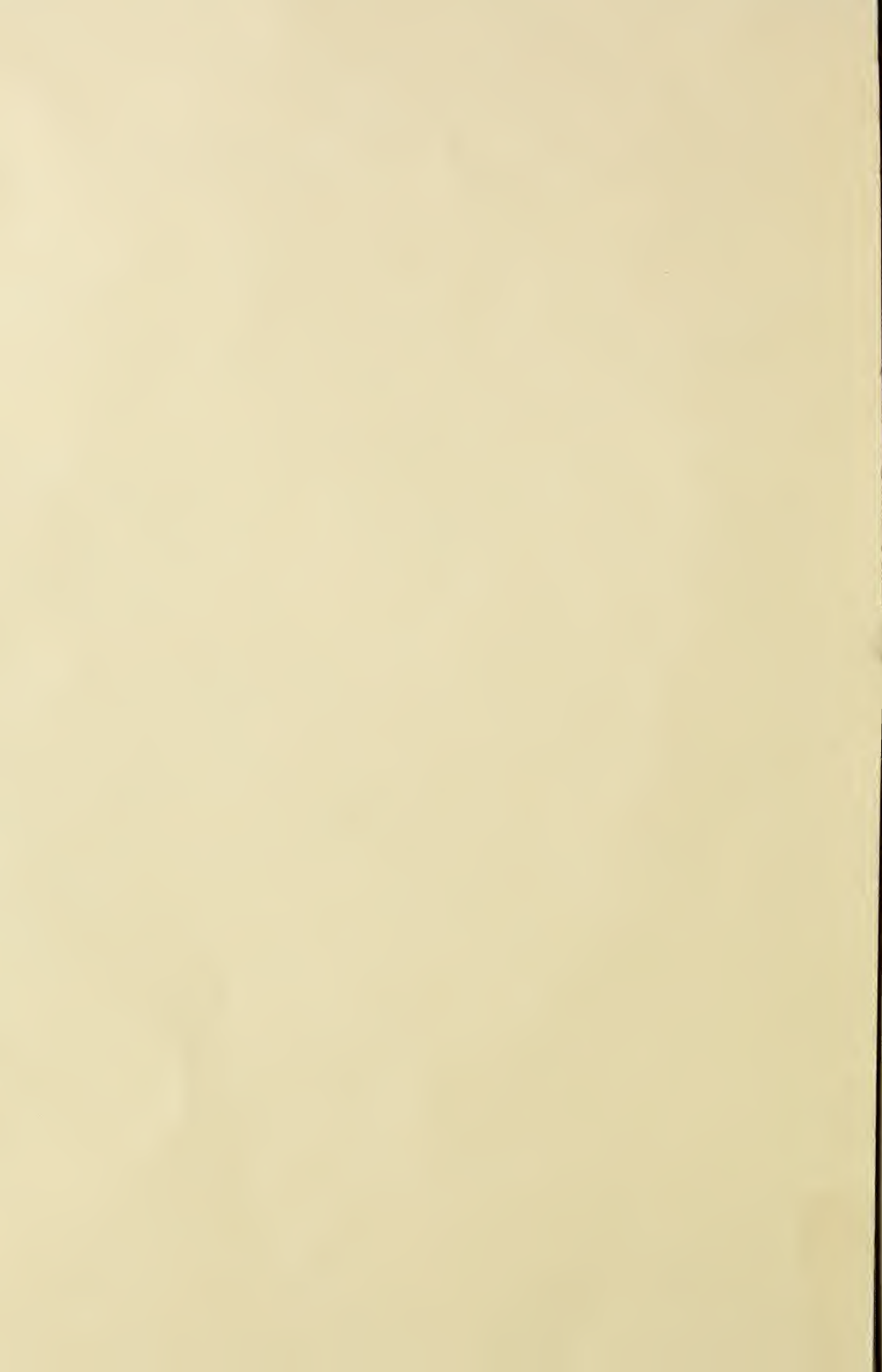


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MARYLAND

DEVOTED TO
AGRICULTURE, HORTICULTURE,



FARMER:

LIVE STOCK
and RURAL ECONOMY.

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BALTIMORE, APRIL, 1885.

No. 4.

Farm Work for April.

Capricious April is again with us and tells plainly that summer is close at hand and it is no time now for the worker of the soil to idle or delay, if he expects a fruitful return for his labors. All seeds have their time for sowing and bearing and it is well that every farmer should know the fact and as a rule embrace the earliest opportunity that the condition of the soil and the state of the weather permits to sow the seeds of such plants and vines as are suited to that particular time. The past winter has been so exceptionally cold and wet that much farm work usually performed in winter has been delayed and could not have been done at the proper time, hence April is this year crowded with an unusual amount of work, usually performed in winter. It behooves every farmer therefore to be active and energetic this particular month. Oats should have been sown two months ago, but now, if on well prepared ground and enriched they may produce a paying crop.

Manure.

Haul out all the manure you have been able to gather and make during the past winter. Top dress your meadows and hay fields with it, and the balance spread on the tillage land. Sow plaster over it as soon as spread, for the purpose of fixing the ammonia. Spread the manure as fast as hauled out. The plan of dubbing it in in small heaps is wasteful and nonsensical.

Clover and Other Grass Seeds.

If not sown before, do so now on the first occasion that the earth is dry enough, and follow the suggestions we made last month as to this important matter. Try above all things to have a good stand of grass. In this crop there is fertility of soil, health and fatness for stock and the germ of farming prosperity.

Tobacco.

Strip and condition this crop and look well to the beds of growing plants.

Tree Planting.

Do all you can this month in setting out Locust and Chestnut trees for fencing stuff—fruit and ornamental trees and forest trees also.

Corn.

Prepare the land intended for the corn-crop, by heavy manuring, under-draining when necessary, deep plowing and thorough pulverizing by the harrow, that it may be in fit condition for planting the crop the latter part of this month or early portion of the next. It cannot be too often repeated, "that the best cultivation corn gets is before it is planted."

Meadows.

After the middle of March not a hoof should tread upon the meadow however tempting it may be to graze a favorite animal.—Go over the meadow and break and scatter any heaps of dung that may be found—clean up by the roots, briars, small bushes, or noxious weeds, and if possible, top dress with fine manure or fertilizer, or if nothing else, dress with plaster, after re-seeding the thin set or bare places, and lightly harrow the whole before a rain.

Sunflower.

It is not often that we suggest the planting of special seeds, especially of such as are grain, flower and vegetable. Once only we remember before of having urged the propriety of sowing sunflower seeds. Sow them as soon as the weather permits, though any time during the next two months will do rather than not at all. Let the æsthetic plant (thanks to that cranky Englishman) be seen everywhere about your tenant houses, fences, waste places &c., for it is an acknowledged absorbent of all the malarial gases and a preventive of the various

diseases originating in malarial or other noxious airs. It is ornamental, useful and of much market value. On the farm it has been proven a sure cure for founder in horses, quicker in relief than any remedy we have ever tried, and is admitted to be a great food for fowls, productive of fat and health, and a marked egg producing excitant, while the old and experienced doctors recommend the seeds as a remedy for asthma in the human family. Of its commercial value, it is only necessary to refer you to the market quotations to prove it highly valuable as a crop, being bought by oil manufacturers, who make luscious oils from it for salads &c., equalling Lucca's oil, of which, we get seldom a taste, unadulterated with our cotton seed oil, expressed here and shipped to Italy to be put in the bottles with a spoonful of true oil and re-shipped as the best "Lucca oil" at fifty times its cost. But above all the stalks and leaves and seed heads make the best of fire wood exceeding in heat and brightness both wood and coal, and lasting nearly as long for bulk as oak or hickory wood. It seems to us under all circumstances that this plant should not be neglected in the general culture of every farm. It is easily grown, and requires but little working, while it is not so exhaustive as likely to be condemned on that account. For these reasons we advise its cultivation to a larger extent than heretofore.

Potatoes.

Potatoes require a rich fertile soil and frequent cultivation to keep the soil loose that air and moisture may easily percolate. The main crop of potatoes for market should be planted now, so as to be ready to be dug to supply our markets between the rush of the early crop from the South and the glut of this crop grown in the North, which is poured into our markets after October. Potatoes at 50 or 40 cents per bushel for the large, merchantable sorts is a paying crop—better than corn at same price or wheat at 90 cents. The land is left in better condition for succeeding crops.

Root Crops.

Be sure and provide a few acres with sufficient culture, well rotted stable manure or suitable fertilizers for Carrots, Sugar Beets, Sorghum. Ruta Baga and other Turnips, to be sown at intervals from early in May up to 20th. of June. The white Turnip need not be sown until August.

Work Horses and Cattle.

Feed these generously and groom well. This is a hard time for them. They are naturally weak at this season from shedding their coats and they

are called on to do the hardest work of the year.

Milch Cows.

Give these ground grain and slops and feed roots to them preparatory to admitting them to grass. When turned to pasture, do so with discretion. Beware of Hoven. It comes suddenly and often fatally. Let all stock have access to salt and ashes—it forms a healthy condiment for them at this season.

Sheep.

Attend well to these, and let them have as good grazing as you can afford. If confined to a poor pasture feed them twice a day with bran and oats—half a pint of the mixture per head at each feed. Give them roots if you can, and some hay or corn blades. The Ewes and young lambs should be now well fed to bring them up to good condition when the grass is ready to be pastured.

Hogs.

If they are mangy or infested with vermin, remove the old beds, sprinkle coal oil over the place and renew the beds with dry leaves or cut straw. Wash each one every alternate day with cold pot-liquor, in which salt meat has been boiled. Saturate the hair well with this and rub it in with a corn cob behind the ears and between the shoulders at the breast. Let the brood-sows having young pigs be high fed and also a plenty of slop or gruel made with a little salt, some bran and meal and hot water, give it to them when it is cool. Give the pigs all the skim milk you can afford, and also, if possible, a run on young clover when it suits them to leave the sow in her pen. The skim milk can be given in a trough outside the pen, to be reached by the pigs through a hole in the inclosure of the pen, for the pigs to slip through and enjoy exercise, milk and green grass.

Garden Work For April.

This is usually the gardener's busy month, but particularly so this year as it is a backward season owing to the past memorable, cold, severe yet changeful winter. The old walks are to be firmed that frost has loosened, new ones to be made, bulbs to be planted, flower-beds to be put in order; bushes and shrubs pruned and trimmed; new shrubbery set out; seeds of annuals to be sown &c., in the flower garden, while the kitchen garden is all the time demanding attention. Attend to the hot beds and see that they have moisture and heat enough, but beware of too much of the latter. Transplant into colder frames such plants as are over crowding their

fellows. Get ready by manuring and deep cultivation all the garden beds likely to be used this month or next

Seed Plants.

Set out for seed, cabbage, and all roots and bulbs you expect to grow seeds from. Be sure and do not set near to each other such seeds as will likely mix, as turnip and cabbage—different sorts of either kind &c. The art of growing pure, prime seed is understood by few, and the uninitiated had better not try it but leave it to the reliable, practiced seedsman.

Peas, Beans, Beets &c.—Sow for succession every ten days, a few rows of peas snap beans, beets, and plant early corn; also sow radishes, lettuce and other salads. It is not too late to sow onion seeds. Plant onion sets. After the middle of the month, sow sym lin, cucumber and more corn. If a cold snap comes cover over the hills of these with straw, or matting or old carpets or peg down newspapers. Any of these will save these tender plants from the frost. When the weather is warmer and the sun shines remove the covers.

Parsnips, Carrots and Salsify.—Sow the full crop for the year of these essentials. Be sure to work them well, and thin them early. They require a deep soil, well manured a year ahead, as they grow stringy and pronged if fresh manure is used on them. They seem to dislike a newly made soil, preferring one that has been well enriched and deeply cultivated, in which cow or horse manure has been thoroughly intermingled.

Nasturtium.—Sow some of these to run on a rude trellis in the garden by way of ornament, for the flowers are beautiful and give an appetizing condiment when spread on hot buttered bread or toast. The young fruit is a splendid pickle and as good for boiled mutton as any high priced foreign condiment.

Cress and Mustard.—Sow the seeds of these thickly in small beds to be cut when tender as breakfast relishes dressed with salt and vinegar.

Cabbages.—Set out early sorts and attend well to bringing forward those planted last fall.

Parsley.—Should be sown now thinly in a moist, shady, rich bed and well thinned as it grows and worked with hand fork. It vegetates slowly. The seed should be well soaked before sown, and the bed often watered if the earth is dry.

Garden and Medicinal Herbs—can all be sown or planted now. Every garden should be well

supplied with sage, thyme, savory, cammomile &c.

Garden Utensils.—It behooves every man who is a gardener or an amateur, both for saving much manual labor and doing the work far better to provide himself in the beginning with a few necessary implements, such as Hallock's Seed Sower, a garden rake, Stills Crescent Cultivator, scuffle hoe, 1 spade. 1 fork-spade, garden line, roller and wheel-barrow. As time and needs require other useful implements will be wanted and the wonder will arise how you ever got along with out them. They seem costly at first, but they soon pay and do the work of one or two men per day.

Editorial Letter No. 2.

NEW ORLEANS EXPOSITION.

In my examination of the notable things in the Exposition, I have made memoranda of several especially interesting to the Agricultural Community, and as various people look upon matters from different stand points, I have thought it would be useful to jot down my impressions.

I saw in the Agricultural Department all the latest inventions and manufactures of implements to save labor, time and make money for the farmer. Every style of plow or reaper or thresher, wagons, engines, every available power or machine in use by the great Western farmers are there on exhibit. Also, much of the improved methods for smaller farms in the eastern section of our country was exemplified in the nicely adjusted seed sowers, cultivators and the appliances for horticultural uses.

In the Machinery Hall I met the evidences of the invention and genius of our countrymen. Every shop in the country that has turned out an engine having large dimensions or any particular excellence or power has furnished a sample and has it running. Every inventor who has been able has gotten his machine there and has it at work exhibiting its qualifications of merit. I observed also that many of the finest specimens of engineering skill were already placarded with very significant

signs, such as "Sold to go to Brazil," "Sold to go to Mexico," No doubt a very large portion of the vast accumulation of machinery will be appropriated by foreign countries, Mexico, Central and South America having already secured some of the best specimens of Eastern genius.

Perhaps I should put on record here the official dimensions of the Exposition for future reference.

There are on the grounds fifteen buildings erected by the management, covering an area, in square feet of... ..2,726,305

Foreign countries occupy the following amount of space allotted in the center of the Main building, viz :

	Square Feet.
Austria-Hungary.....	16,008
Brazil.....	612
China.....	3,072
France.....	28,848
Great Britain.....	16,008
Honduras.....	2,184
Jamaica.....	1,632
Mexico.....	36,852
Sandwich Islands.....	576
Siam.....	576
Venezuela.....	576
Belgium.....	28,508
British Honduras.....	2,304
Costa Rica.....	672
Germany.....	5,412
Guatemala.....	1,440
Italy.....	8,671
Japan.....	6,720
Russia.....	16,508
San Salvador.....	288
Spain.....	1,440

All the foregoing space is fully occupied with exhibits which do honor to the countries they represent, and amid which many hours may be pleasantly and profitably spent by the visitor.

Some of our State exhibits however attracted my particular attention, and among them most prominent that of South Carolina. This State has erected a very large pyramid of phosphate rock, an article long and favorably known to the Maryland farmers.

The agricultural value of this rock was first recognized in 1868, and its manufacture into commercial fertilizers was begun in South Carolina about 1870. This rock

forms the basis of a great part of the fertilizers manufactured in the world.

Companies have been formed with ample capital to mine and manufacture this rock and prepare it in various forms for agricultural purposes. Besides the heavier forms of "acid phosphate" companies also manufacture what is known as "floats." This is simply the phosphate ground to an impalpable powder, so fine that it will float in the air, hence the name.

The river rock is removed from the bottoms of the streams by steam dredges. The land rock is removed by removing the earth until the strata of rock is reached.

From a small beginning in 1870, the mining and manufacturing of the rock have grown to be a great industry. There are now nearly \$6,000,000 invested in the business, giving employment to over 3000 hands. Last year the total production of gold and silver in all the Southern States was about \$270,000. The value of crude phosphate rock mined in South Carolina was \$2,500,000, more than nine times the value of the gold and silver output in the South.

The crude rock is shipped to all the countries of the world where commercial fertilizers are used.

As the supply of the rock is practically inexhaustible and the demand increases annually, it will be readily seen that both the mining and manufacturing will be rapidly developed in the next few years.

Kansas.—The various plane surfaces of the structures in the Kansas exhibit are covered with inscriptions relative to the agricultural industry of Kansas etc. One of these inscriptions attracts a great deal of attention and is the source of much amusing comment. It reads as follows: "Egypt, in all its glory, could not compete with Kansas in the quality and quantity of its corn. If Joseph were alive he would telegraph his brethren to come to Kansas on the first train."

Many other items are worthy of comment, and I must not close this letter without alluding to at least one item that is only to be found in this mild latitude, at this season of the year: In the rear of Horticultural Hall, almost at the verge of the grounds, is a small rhododendron plot that attracts the admiration of all who wander in that direction. Many of the numerous varieties displayed there are now in bloom, and present a beautiful aspect. This plot of floral splendor is in one of the most charming parts of the grounds, and will well reward those who pay it a visit.

Again I must urge all who can possibly make use of the opportunity, to visit New Orleans and the exposition during these spring months. The more I see of it, the more highly I appreciate it.

The N. O. Exposition.—Its Influence.

Among all the benefits arising from this Exposition for the country at large, must be placed as most important, the mutual knowledge of the Northern and Southern people which will result from the contact with each other. The large travel from the Northern States brings a view of that section, which will be spread all through the towns and villages of the North, correcting the many false impressions which now exist, both as to the Country and the people. The Southern people, coming in contact with so many of the earnest men and women who visit the Exposition, cannot fail to realize, more truly than ever before, the sterling character of their friendly visitors. It will undoubtedly be the means of destroying a large number of those prejudices and hard feelings which the past has made prominent, and which it is most desirable to have speedily buried. Thus far the intercourse has been particularly pleasant and with few exceptions the expression given in the press, both North and South, has had a uniform tendency to promote the good feeling.

In this connection many particular instances of this fraternizing intercourse might be given, were it necessary; and we cannot pass by one occasion without a special reference. We mean the presentation of the captured battle flag on "Connecticut Day," which brought together a vast concourse of the representative men and women of the whole country. The character of the gathering, the speeches of delivery and of reception, and all those addresses which followed these formal ones from the representatives of the two sections, served to show that the time for the display of any hard feelings was wholly passed, and only the sentiments of mutual respect and good will were now in order.

In returning the flag Col. John G. Healy, of Connecticut, said:

"Boys of the Ninth Connecticut, of the Third Mississippi, and my friends: Twenty-three years ago the Ninth Connecticut Regiment, and a section of a battalion of the Sixth Massachusetts visited Pass Christian, Miss. Twenty-three years ago you were the boys in gray, and we were the boys in blue. The war is over. The fires of the bivouac have been extinguished. May they never again be lighted, unless a foreign foe should interfere with this united country. [Applause.] There seems to be but few of your boys left. There are fewer of mine. In a few years we will have passed away. There are none to take our places. Our ranks cannot be filled. In a few years we will have joined the army above, and before we go, before we answer the last role-call let us shake hands, and remember that though we have fought on different sides of the same field, we are all citizens of a common and a united country."

The speaker here advanced a step and took the extended hand of Col. Dyer, of the Third Mississippi. They shook hands cordially amid hearty cheers.

Then while the immense audience sent up a continuous cheer, and the Mexican

Band rendered the stirring strains of the national air, the old flag that had been twenty-three years in captivity, passed from the hands of Col. Healy into those of Capt. B. Curran, of the Third Mississippi.

Capt. Curran responded in words fitting the occasion. Referring especially to its return, he said :

"In returning it you show a spirit which does you honor, and to which we heartily respond. Brave men respect the brave, and the war over, are ready to pursue the paths of peace.

In this return you show that you recognize our deeds in the past, and we accept it as a symbol of peace and good will in the future. We fought you, as you know, long and well. You gained the day. We accept the issue and welcome you as citizens of a common country."

The congregated multitudes, with all grades of feeling from all parts of the land, exhibited only the most harmonious spirit of fraternal unity, while the universal applause which greeted the speakers typified the feeling of brotherhood which pervaded all hearts.

Another instance of the same character was the return by the State Historical Society of Iowa, of the portrait of Gen. W. H. T. Walker, who fell at Corinth. This was itself a valuable portrait in oil, and is held as a precious heir-loom by his children. The Exposition Journal refers to its return as follows :

"The act is illustrative of the feeling now existing between the North and South, manifestations of which are called forth every day on account of their intermingling at the great fair."

A better knowledge of the South, a more generous application of Southern character, a more accurate forecast of the great future in store for our Southern States, will be felt in the North; while our Southern citizens will realize more than ever before the practical energy, the persistent enterprise,

and the ever ready sympathy of their Northern kindred.

In these respects the influence of this Exposition can hardly be exaggerated. The actual good it will accomplish in healing old sectional feelings and in cementing new ties of friendship is beyond computation.

Sweet Potato Culture.

It is not very difficult to raise sweet potatoes, but it is not always an easy matter to produce first class ones, those which are bright in color, thick, short and "chunky" in shape and of first class table quality. Some writers advocate putting narrow boards in the bottom of the furrows, to make the tubers short, but we do not know of a single grower who resorts to this, while it would be a very doubtful as well as needless expense in field culture. If the land is light and well drained, and the seed is first class, there need not be any fear but what the tubers will be all right. Either heavy or wet soil will produce very long, thin and irregular sweets, while the quality will be known as wet or "soggy." There is but little land in Pennsylvania which can or does produce first class sweet potatoes, their true home being in Jersey and in most of the States South of Mason and Dixon's line, where the land is light and warm, and where the temperature is warm enough to ensure a long season of growth. The yellow variety sells more readily in market than does the red, and for market purposes we would recommend the former. In selecting seed tubers, always take medium sized ones, short and stocky in shape, as well as bright, clear and even ones. These should be put in the plant bed only early enough to bring the plants of good size when the danger of frost is all over.

The plant bed is made by digging out a space, on a high spot, about four feet wide and long enough to contain the number of seed tubers you wish to set out.

Dig it out about 18 inches deep, keeping the top soil and the subsoil separate. Now put in about six or eight inches of good, hot stable manure, trampling it down well, when about four inches of good fine soil should be put on, and the bed covered up with boards and straw or mats, to keep out the cold and rain. When the soil has warmed up nicely with the manure, put in your tubers, on their sides and just close enough not to touch each other; cover with about three or four inches of fine, good soil, rake off the top evenly and cover up as before. Do not water or permit the rain on the bed until the shoots are well through the ground, after which water should be supplied daily and liberally, but the plants should be protected at night and on bad days until danger from that source is past. When the plants are about five to six inches high, they are large enough to set out, and in pulling them from the bed, care should be exercised not to disturb the tubers, as they will force more plants all through the planting season if left undisturbed.

The piece intended for the sweet potato patch should be free from sod, stones and trash, should be well plowed and harrowed and marked off in furrows three and a half feet apart, with a one horse plow, running twice in the same furrow to clean it out nicely, when fine, well rotted manure should be spread in the furrows, and the soil at once ridged up over it, to prevent it from drying out. It is well not to plant for a day or two, until the soil has settled, when the plants should be carefully set out about eighteen inches apart in the ridge, first wetting the roots of the plants in thick mud, to cause the soil to adhere to the roots. Always press the soil around the plants, as it insures their growth. Cultivate thoroughly, to keep the soil loose and to keep down weeds and grass, always turning the vines away from the side of the row you are about to cultivate with a stick before starting in the cultivator, else many vines will be injured or dragged out.

The Tobacco Interest.

Importance of Careful Handling.

At a recent meeting of the Chemung Valley Tobacco Growers' Association, held in Elmira, several important topics were discussed which have direct bearing on the great question, "how to enhance the tobacco growing interests and encourage more remunerative prices for the product." The need of better methods of culture, curing and handling, and the exercise of greater skill and caution in the work of housing, stripping and assorting was suggested and urged by several members.

It was noted that those who were most successful as tobacco growers are men of energy and determination, knowing the importance of producing a product of good quality, and of properly preparing it for the market. It is not always those most familiar with tobacco growing who have the best success, for these are often careless, and do not realize the necessity of careful and skilful management. The grower who believes that tobacco is tobacco, and always worth a certain specific value, without regard to quality or condition, cannot succeed in these days of competition and over production of low grade tobacco.

President Morse, a large and successful grower, of Painted Post, N. Y., said that his success as a tobacco grower was due to a persistent effort to produce an article which, when placed on the market, would meet the approval and demand of the buyer. He appreciated the peculiar condition of the tobacco trade, the ever changing demands of cigar manufacturers, and the difficulty in pleasing buyers, but knew that the utmost care and painstaking in the work of assorting and packing for the market, were essential to success.

The too common prejudice which many growers entertain against buyers, was made evident by a member who remarked that "there is little encouragement for farmers to exercise care and painstaking in preparing their tobacco for market, so long as buyers do not discriminate between growers who handle their crops good or poor."

It is unfortunate that there is existing between buyer and grower the least animosity, since, in the nature of things, each is working in the interest of the other. The tobacco market is subject to great fluctuations from year to year, and in recent years

no dealer has been wise enough to foretell the condition of the business a year in the future. Buyers are thus working constantly on an uncertainty, and they can hardly be blamed for using business sagacity and caution in their dealings. If one grower happens to sell his tobacco for as much as his neighbor receives for his, and his neighbor has a better product and more carefully handled, no one can be blamed, and there is certainly no excuse offered for shiftless careless handling. In the history of tobacco production in this valley, it has been our most careful growers who have met with the best success, and, in the long run of years, it is certain that good culture, careful and systematic handling and honest and square dealing with buyers, pay best. There was a time when poor tobacco, poorly handled, brought some profit to producers, but that day has passed, and a time has come when care and system and thoroughness in all the details pertaining to the growing and preparation of this product are essential to success.

Our growers and dealers should work together, so far as is possible, and the one should endeavor to please the other. The duty of the grower is completed when he has properly prepared his tobacco for the wholesale market. It is the dealer's duty to take the product off the hands of the farmer, to pay the cash for it, to store it for the sweating process, and finally place it before the cigar manufacturers for approval and sale. The duty of the one is about as responsible and is attended with as much risk as that of the other. The grower should aim to please the dealer, and he, in turn, should endeavor to reward the grower according to the merit of the crop. But unfortunately there is a degree of selfishness existing between buyer and seller which tends adversely to the interests of both. There are growers of tobacco in this valley who are ever ready to practice sharp games with buyers, and there are buyers who would take advantage of growers.—G. A. G., JR. in *Country Gentleman*.

PAINT.

I have had many years' trial and experiment with different paints. The number of roofing paints is legion, and many of them are no doubt good, and cost on an average about one dollar and over per gallon. Some

are made of gas tar or asphaltum dissolved in turpentine, and mixed with the light product of coal oil works, such as benzine, &c., and are usually very objectionable to handle, and require some skill to apply. These are all paints that harden by evaporation, forming a coating of tar or pitch on the roof. The best and quickest applied by unskilled hands is the ordinary paint made with linseed oil thickened with the mineral paints, such as Brandon red and other paints of similar composition, namely, silicates of alumina and the peroxide of iron, Spanish brown and Venetian red, being allied to such combinations. These paints are very cheap, costing about two cents a pound, and being in a very fine condition, mix readily with plain unboiled oil, and cover the tin finely. This paint is very different from the first mentioned, as it does not owe its drying property to evaporation; on the contrary, absorb oxygen from the air, which converts the oil into a resinous compound, and forms a coating of varnish on the tin, which, with the silicates, presents a coating that thoroughly protects the tin, or the iron of the tin, from the oxidizing influence of air and water. To mix a little litharge with this paint promotes the oxidation of the oil, by presenting oxygen in an available form to be stolen by the oil, and a formation of a little oleate of lead. The whole process is a chemical one instead of a mechanical one, such as follows evaporation from paints of a non-oxidizing nature. The silicates above mentioned are excellent minerals to mix with crude oil, such as you so often have recommended, but for the reasons given above I have long since abandoned the use of it, as hydrocarbons have no power of appropriating oxygen, except under the influence of great heat, as in the coal oil lamp, stove, &c.

The cost of the paint will be easily seen, when the price of linseed oil is known, as it will take but a few pounds of the silicate to thicken up a gallon to the proper consistency for applying. Two boys painted my roof in the country, about 2,500 square feet, four years ago, and to the best of my recollection the five gallons of oil was not all used, and it is in good order to day. I mixed the paint in a few minutes. Those who use the crude petroleum for paint will find it improved by about two pounds of resin dissolved in it. The resin dissolves

very quickly in it, and imparts more body and adhesive quality to it, and it will evaporate to a harder surface, but no chemical change takes place.—A. P. S., Rock Hall, Md. in *Country Gentleman*.

The Value of Clover.

To the question what is gained by plowing in a clover sod? Henry Stewart replies as follows in the *New York Times*:

There are, he says, three advantages—first, the mechanical effects upon the soil, second, the addition of a certain quantity of fertilizing matter; and third, the chemical effects upon the soil.

Just now it is very important to consider each of these very closely, because there is a popular opinion prevalent that the soil is actually improved by cutting and removing this second growth instead of plowing it under. This belief has been taught by agricultural chemists and by writers upon agriculture, and it has been widely adopted on the strength of the authority. But there are really no facts given to support the prevalent belief in the effects of clover upon the soil, while common sense and reason are opposed to it. This will appear as the three points above mentioned are made clear.

First.—There are some certain mechanical effects produced upon the soil by the plowing in of a clover sod, and these effects are greater in proportion to the bulk of the vegetable matter turned under. A quantity of green clover which would make a ton of hay is equal to four tons of green matter. The roots and stubble of such a growth of clover will amount to an equal bulk of four tons more. Sixteen thousand pounds, or eight tons of green matter, is equivalent to 100 pounds upon every square rod of ground. When this is evenly distributed, as it is by plowing a growing crop under, in alternate layers of vegetable matter, and four, five or six inches of soil, as the furrows may be made, the soil is greatly improved in texture; a light sandy loam is bound together and consolidated by this fibrous matter intermingled with it, and a heavy clay is loosened, opened, and made more porous. Either soil is far better prepared for its occupation by a mass of roots, and is better enabled to hold the moisture requisite for the growth of a crop.

Second.—A quantity of clover like that plowed in contributes to the soil a large amount of the most valuable fertilizing matter. The eight tons of clover leaves, stems and roots contain about 112 pounds of nitrogen, twenty six pounds of phosphoric acid, fifteen pounds of sulphuric acid, sixty pounds of carbonic acid, one hundred pounds of lime, sixty-seven pounds of potash and about sixty pounds of soda, chlorine, magnesia, iron, etc. A ton of ordinary farm manure contains nine pounds of nitrogen, ten pounds of potash and four pounds of phosphoric acid. Therefore the eight tons of clover add to the soil as much nitrogen as twelve and one-half tons of manure. There is a considerable balance in favor of the clover, the greater, as nitrogen is the most valuable and costly of all the needed elements of fertility. But there is a deeper view to be taken of this considerable addition made to the fertility of the soil by the clover, and that is, it has been procured from sources where no other crop could procure it, and that is from a great depth, comparatively, in the subsoil. Clover is a deep rooted plant. It has a thick fusiform tap root, which penetrates to a great depth, and then sends out a multitude of feeders, which gather nutriment from a much larger space and depth of soil than any other plant. Furthermore, it has the habit of passing through its roots and leaves an enormous quantity of water, equal to 15,574 pounds per day for an acre, or in 100 days about 777 tons. This is seven times as much as is required or used by a wheat crop, whose roots occupy much less space and remain near the surface.

There is still another point to be noticed and which we must not omit. This is that while the clover plant draws up and transpires so large a quantity of water, yet the mineral matter held in the solution and upon which the plant feeds is by no means proportionately large. It is, therefore, able to exist and grow in poorer soil than any other crop, and to subsist on much weaker food. It is as though an animal could live and thrive and grow upon milk diluted four times with water, and thus exist upon a very poor quality of food; or as though it could increase and grow fat upon straw, eating and digesting four times as much for the same effect as another could with the best hay and meal. This is the most important point to know and consider, why

clover is so beneficial to soils, and why a farmer, by ploughing in a clover sod, can grow a good crop of corn and another of oats, and still leave a remainder for the following small grain crop, or why, after a clover sod plowed in, in the summer, he can grow a very much larger crop of wheat than he could in any other way.

These acids are set free and begin to act upon the soil. And we may also in this connection take into account the considerable quantity of the deeper roots of the clover, which are left in the soil to decay below the reach of the plow. These acids act upon the mineral water of the soil and decompose it. The carbonic acid has the property of dissolving in water and conferring upon it the ability to dissolve silica, lime and other minerals, while sulphuric acid combines with lime and sets free phosphoric acid which may have been in combination with it. Again the porosity given to the soil by the mass of clover opens it to the admission of the air, and in its decay produces heat, and these influences greatly accelerate and intensify whatever chemical action may be started by the decay of clover.

In summing up the advantages which may be derived from plowing in a clover sod—and we may say at the same time a crop of clover grown for this purpose—the following are the chief points to be noted:

1. Clover from its habit of growth, may be produced upon soils too poor for any other crop, because it gathers its food from sources beyond the reach of any other crop.

2. Clover gathers from the soil more potash, lime, phosphoric acid, and other mineral matters, and also several times more nitrogen than any other crop.

3. Clover in its decay, sets free from the soil a considerable quantity of mineral matter, and also gathers from the atmosphere, during its growth, a considerable quantity of nitrogen.

4. All these accumulations are brought to the surface, where they are made available for the use of succeeding crops.

5. That in this manner clover effects a sensible and valuable improvement of the soil, both directly by its actual contributions to it, as well as indirectly by its favorable chemical action upon it.

That these contributions of a clover crop to the fertility of the soil are not only in an immediately available form for the use of

succeeding crops, but that they are additional to the very considerable, and indeed equally valuable, contribution in the form of fodder for the feeding of stock, which is returned in great part to the soil in the form of manure.

India Wheat Competition.

At the National Agricultural Convention which met in New Orleans last month, the Hon. Thos. H. Dudley, president of the Board of Agriculture of New Jersey, and for eleven years American consul at Liverpool, spoke on the production and consumption of wheat. He dwelt on the fall in the price paid for wheat in England, which virtually regulates the price in the United States, and which had caused agriculturists a loss of nearly \$100,000,000 from their receipts of the preceding year.

The great cause in the decline in price is the advance of wheat growing in India. England is the great market for the surplus agricultural products of the United States. She does not raise one year with another more than one-half the breadstuffs she requires to feed her people. The rest she buys from the countries, buying always where she can purchase on the best terms. She paid in 1883 more than \$327,000,000 for breadstuffs, including 84,550,271 cwts. of wheat and wheat flour.

The cultivation of wheat in India has commenced in earnest. It has increased from a little over 2,000,000 bushels in 1879 to 44,000,000 in 1883, more than half the amount shipped in that year from the United States to England. Of the amount exported England takes nearly half. In quality and yield of flour the wheat of India is equal to the best grown in the United States. British India, with a population of 258,000,000, has but 10,000 miles of railway. There are immense districts without a mile of railroad. Where railroad facilities exist, heavy charges for transportation are made. But this will soon be obviated. England is rapidly opening up railroad and transportation facilities. In a short time India will be able to put down wheat in Liverpool and London sufficient to supply the wants of Europe, and yield a profit to the husbandmen at less price than the United States can do. The Cobden Club, of London, in a published document, looked

forward to America cheapening the price of her labor to be better able to compete. He (the speaker) supposed they meant to the standard of labor in India, for it would be impossible otherwise to compete with that country in producing wheat. This they could not do in the United States. They should not if they could. There was a much better remedy. It was to create a home market sufficient to consume the surplus products of the country. This could be done wherever the people are so disposed. If the people of the United States manufacture for themselves the 7 per cent. commodities they now import from abroad, the people employed in manufacturing them would eat and consume the whole of the 8 per cent. of the surplus agricultural products now reported. All that is required to meet the crisis and provide a remedy therefor is for the government to pass such laws as will induce our own people to manufacture what we now buy of foreign countries. The remedy is provided, the danger averted, and in a way that will stimulate our own industries, develop the resources of our country, provide work for our people as well as a market for our farmers, and thus increase our wealth and extend our power, civilization and grandeur as a nation.

Mr Dudley's remarks were received with a marked degree of attention, and excited much comment.

Prof. Waterhouse, who has traveled largely in India, said he had himself seen the development of that country. The price of labor was in many parts almost nothing; the lands were rich and alluvial as those of the Mississippi Valley. The last figures he saw regarding the production of cereals in India showed that it was already about half as large as that of the whole product of the United States, and rapidly increasing. But India was not the only competitor. The Australasian colonies had begun to grow wheat largely, so had Brazil, where the lands were as fertile as those of our own country, and Southern Russia, whose proximity to the wheat taking countries of Europe made it especially dangerous. He advised more attention to manufactures and greater diversification of agriculture.

A vote of thanks was unanimously accorded Mr. Dudley, in replying to which that gentleman advocated the passage of

the bill establishing a national agricultural experiment station, regarding which a resolution was passed.

Bulletin No. CXI.

N. Y. AGRICULTURAL EXPERIMENT STATION, GENEVA, N. Y., MARCH,
18, 1885.

What causes maize seed to rot in the ground in early spring? If the cause is one that comes under our control it is well that we should know it, in order that by forethought we can prevent it, and thus save replanting in many cases, and also obtain a larger number of plants in proportion to the seed planted. The Doctor reports a large number of experiments made by him at the Station which are exceedingly interesting, but we have not the room to give them in full. In closing the article he says:

From the sum of these various trials we deem it a safe recommendation for the farmer to use increased carefulness in selecting his seed corn; and to farther advise that in selecting seed, the corn which has been in contact with mouldy cobs, or which comes from a bin in which mould has made, at any time, considerable progress, should be rejected.

While upon the subject of the germination of corn, it may be well to call attention to one of the conditions favorable to germination which is often overlooked; and that is, the necessity of the soil being in contact with the seed. Oftentimes, corn that is planted early, is put in the ground while the land is in a lumpy condition, and no pressure brought to bear to bring the soil in close contact with the corn. The open spaces thus left about the seed tend to retard, and, under the varying conditions of heat and moisture, often destroy the germinative process. So marked is its influence that the per cent. of germination by actual trial, as observed between two plats, both of which were planted at the same time, but upon one the soil was firmly pressed upon the seed with the foot, and upon the other the seed carefully covered by means of a hoe in the ordinary method, was largely in favor of the trodden plat. This trial was in accordance with a practical experience in farming, whereby it was found that the gain in crop through the use

of a western corn planter whose wheel compressed the soil over the seed as planted, compensated largely for the additional first expense of the machine. So much so that even it may be said that under conditions of the locality noted, a farmer could better afford to himself plant his corn crop with a machine than to accept the gift of the planting with a hoe.

In the matter of seed corn, we may sum up the conclusions gained by experiment and experience as follows: 1st. Kiln-dried seed, or seed dried at a temperature of 90 degrees, perhaps more, is preferable to seed from the bin. 2d. That every farmer can afford to exercise the utmost care to avoid selecting moldy seed, or seed from a moldy lot of corn. 3d. That compacting the soil over the seed as planted, it being presumed that the soil is in a fit condition for planting, will be found to compensate in part for inferior quality of seed, and with the best seed often will, under certain conditions of soil and climate, become an important factor toward obtaining the full stand which accompanies maximum crops.

E. LEWIS STURTEVANT, Director.

THE DAIRY.

For the Maryland Farmer.

Points in Butter Making.

BY J. W. DARROW.

A recent writer sums up the causes of poor butter in the following terms:

1. Uncleanliness in manufacturing.
2. Too much acid in cream.
3. Casein, decomposed, in the butter.
4. Too great friction in the butter in working.

The points are well taken. Cleanliness is a positive necessity, beginning at the milking time, continuing until the cover is on the tub or pail, and the latter on its way to market. Slight odors are not noticed by inexperienced judges, or perhaps by the average consumer, but high prices are paid for butter by them who *know* a good article when they taste it, and they detect the slightest taint. Fancy prices are not paid for second-class butter; it must have a sweet taste and pleasant aroma.

Too much acid in cream will produce white specks, the acid acting somewhat

like rennet on the casein. These curd specks it is quite impossible to remove from the butter by washing, but if the cream be stirred daily, particularly in warm weather, the specks will be avoided. Cream from different milkings should be mixed so as to assimilate before churning.

Over-working butter is very detrimental to it. Stop the churn when the butter is in a granulated state. Wash it in the churn, and do not "gather" it until it comes upon the butter-worker. Avoid smoothing it so as to make it sticky and pasty. This breaks the granules, and when once it becomes salvy it will be more difficult to keep it. One of the modern-workers is a most valuable piece of dairy furniture; the old ladle is out of place except for assisting in turning or transferring the butter. An ounce to the pound is the general rule for salting, but this varies with taste and the market.

The Best Cows for the Dairy.

Of course the best cow is the one that will give the best results, the most profit in the valuable products of a dairy, and, when you find such cows, you will find that they are not confined to any one breed, but it depends upon the judgment and skill of the farmer in making his selection. A good dairy farm may be, also, a good stock farm, but a good stock farm is not necessarily a good dairy farm by any means. If I were running a dairy for the best quality of butter—80 cents to \$1 a pound, as some of our farmers are getting—I should use the ordinary Jersey. If I were running a farm for the sale of milk, I should prefer something with the general characteristics of the Ayrshire. As to the wisdom of confining ourselves in a dairy farm to a pure breed of cattle, of course that must depend very much upon the judgment of the individual. After the first cost, the raising of a pure blooded animal, up to three or four years of age—the period of production—is not much greater than that of a low grade, coarse, scrub animal. So, if the farmer is able to stock his farm with pure blooded cattle, it strikes me that in the long run he will be able to make more in that way, taking the chances of raising and selling, and it is my judgment that he should keep pretty near the line of pure blood. It does not follow that the dairy products are bet-

ter, but, including the products and the chance of selling from time to time, at an advanced price, I suppose there is economy in it.—*Hon. C. L. Flint in Mass. Ploughman.*

General Rules for Dairying.

1. Decide your line of dairying, butter or cheese, or both.

2. Select your cows according to the line of dairying chosen.

3. Test each cow separately and reject all not suited to your line of dairying, or that fail in quality or quantity of milk.

4. Feed liberally, have pure water always accessible, and keep a mixture of equal parts of salt, ashes and sulphur within reach of the cows.

5. Be sure your stables are thoroughly ventilated, remove all droppings immediately, and freely use absorbents and deodorizers—such as sawdust, dry earth or cut straw, never omitting a liberal supply of plaster.

6. Be scrupulously clean in every particular, both in keeping the cows and in milking and handling the milk.

7. By all means avoid exposure of the milk to the hot sun and to foul air.

8. Air and cool your milk as fast as possible down to at least seventy degrees if you carry it any distance to a factory or creamery. Do the same if you make it into cheese at home, though you need not go below eighty degrees if made up immediately.

9. When milk is kept over night to be carried to a factory, the temperature should be reduced as low as sixty degrees.

BUTTER MAKING.

10. If milk is set at home for cream, the sooner it can be set after milking, and the higher the temperature, the better, as cream rises best and almost wholly while the temperature is falling.

11. Never reduce the temperature below forty degrees, as a lower temperature has a tendency to chill the product and injure its keeping quality, and it also expands the water, rendering its relatively greater density less instead of increasing it. To go five degrees below forty degrees would have practically the same effect as raising the temperature five degrees, and to that extent retard the rising of the cream.

12. Skim as soon as the cream is all up, or so much of it as you wish to take from the milk.

13. Keep your cream, if not churned immediately, at a temperature of 64 degrees, or below, but not below 40 degrees.

14. Churn at such temperature between 55 degrees and 64 degrees as experience shows you is best. Conditions vary the temperature for churning.

15. Stop the churning when the butter is in granules about the size of wheat kernels.

16. Draw off the buttermilk and wash in clear water, before gathering the butter, until the water runs clear. If one washing is in brine, it is all the better, as brine coagulates the cheesy matter, which dissolves and is then washed out.

17. Salt to suit customers, using none but refined salt made for dairy purposes. The best American salt is as good as any.

18. Put up in such packages as are demanded by your market. If for long keeping, pack in firkins, set in a cool, sweet place, and keep the butter covered with brine.

* * * *

CLEANLINESS.

It is not possible to be too particular about cleanliness. But cleanliness, Governor Seymour says, is a comparative term, and what is clean to one may be dirty to another.

Carefully brush the cow's udder; if it is befouled, wash it before milking.

Keep all hairs and loose dirt out of the milk, that no filth may be dissolved in it. No strainer can take out what is dissolved.

Use a fine, soft cloth strainer besides the wire strainer.

Keep your milk away from all contact with foul or disagreeable odors, as the fats rapidly absorb all odors and impart them to the product.

Wash in tepid water every dish, implement or utensil that comes in contact with milk or its products. Then scald in boiling water or with steam; after which rinse thoroughly in cold water and expose them to pure air, and sunshine, if possible, until needed for use.—*T. B. Marquis, N. Y.*

HIGH PRICED BUTTER.—Dairymen often wonder how their more favored competitors get such high prices for their butter the year round. It is by always having a uniform gilt edged article. To put the "gilt edge" on, when the pastures do not do it, they use Wells, Richardson & Co's. Improved Butter Color. Every butter maker can do the same. Sold everywhere and warranted as harmless as salt, and perfect in operation.

THE APIARY.

This column is open to all upon matters pertaining to this department, and will be conducted for the interest of the bee-keeping fraternity.—ED.

Questions by "Subscriber:—"

1st. Will you give the origin of the Movable Comb Hive?

2d. When and by whom was it invented? Answered by C. H. Lake.

MR. EDITOR:—To do the questions of of your correspondent justice, would, I fear trespass largely upon your space, but I will attempt an answer by quoting from historical works at my disposal, in relation to movable frames, and the management of bees in olden times.

It is, perhaps, necessary to state that these questions have been called forth by the bee-hive I had on exhibition at the state and county fairs last season, which was the hive presented to R. Colvin, Esq., by King Otto of Greece, in the early days of his apiarian experience. The "date" of of the invention of this hive, I have never been able to find, but C. W. Johnson, Esq., in 1828, thus describes a hive similar in construction, and as the whole article is of interest, I will copy it verbatim: "A new system of managing bees has been lately introduced into Russia which has acquired immense celebrity, not only in that country but parts of continental Europe, to the northern portions of which it may perhaps be more specially adapted. It is however, at present receiving great encouragement in France, where the most active efforts are making to promote its extension. Although we believe that the most essential objects obtained by the Russian mode are gained through some of the almost innumerable contrivances worked out by American ingenuity, still we think it proper to make the citizens of the United States acquainted with what is deemed of so much individual and national importance abroad.

The Russian system owes its origin and establishment to M. Prokopovitch, an individual who has devoted more than half his life to the subject. His reputation as an apiarian is at present so high as to have enabled him to establish an extensive school for teaching the art of managing bees. His school and dwelling houses are situated in

the midst of a vast garden in which are found no less than *twenty-eight hundred hives*. The number of his pupils is never under eighty, which come from all parts of Russia and remain two years. His terms are very moderate. In studying the nature and characteristics of the queen he made the discovery that she always keeps upon the combs and never creeps upon any part of the hive. This observation he has turned to advantage *so as to make the bees assort and dispose their honey in whatever manner he desires it to be deposited*. By discovering a plant pre eminently rich in honey, he has rendered another service to his country, not less important than that just referred to. In doing this, says a French writer, he has rendered a service to Europe similar to that conferred by Paunintier, who placed the potato among the number of plants indispensable to the purposes of domestic economy."

(Space will not allow of a description of this plant at this time. It is called "Ciniac" and is a species of Borage)

DESCRIPTION OF THE RUSSIAN HIVE.

"The usual size of this hive is three feet six inches in height, fourteen, twenty and even as much as twenty two inches in width, and from twelve to sixteen inches deep. The box, or case is made of five pieces of boards, either nailed or what is better dovetailed together. (There are three sides, top and bottom.) Three pieces of equal size which are fixed into mortices or grooves and fastened with pegs or pins from the back—and are the doors to the hive—Two movable pieces are dovetailed into the sides—on which two of the doors rest. These small cleats are fastened into the sides of the hive by mortices. These serve to prevent the doors coming into contact with the frames when closed. Each range of frames has its cleat.

The honey is deposited in small frames which are notched or scooped out circular upon the lower side as well as upon both edges of one end. The opening left by the hollow or notch in the lower-most side, serves for the bees to enter from beneath, whilst the bottom or notches on the sides of the front end of the frame admits the movements of the bees to be observed. These frames are thin, their thickness, however, is absolutely arbitrary, both must be made to correspond to the size and form which the bees give to their comb. A

grating is used on which these frames stand, and is called an "adapter." This "grating" remains in contact with the bees after the frames have been removed. Another solid board, or winter cover, with a hole cut through, and covered with perforated metal, is placed upon this grating for wintering. The entrances are three in number, and so arranged that the bees can pass directly under the different ranges of frames.

The various kinds of hives constructed in sections or compartments may be divided into two classes, namely, those in which the divisions are made either horizontally or vertically. The first are founded upon the well-known necessity for allowing space for the new combs. The second from the advantage derived from separating the swarms artificially.

To carry out these plans very complicated contrivances have generally been employed whilst the Russian hive effects every necessary object to be gained from section or division hives.

The leading principal of the Russian hive, which it will be seen, is quite plain in construction, and economical as to first cost, consists in its capacity to be *reversed* or turned *upside down*, a very simple operation, which, however, leads to the most important results in the management of bees. Reversing the hive not only allows of the perfect renewal of the combs, but furnishes an opportunity of inspecting everything passing within by means of the *movable combs*, and at the same time of conducting all the advantages of the two systems of horizontal or vertical section hives, such as the separator of the swarm, &c. The mode in which M. Prokapovitsh manages to make his bees assort their honey themselves is effected by means of a very simple contrivance. Many others have devised modes very similar to those adopted by the Russian apiarian, but it is asserted that their objects had not the same end, since they only sought to obtain the virgin honey. No one has before believed it practicable to procure honey of a uniform quality, and whilst at the same time is virgin honey. The idea, therefore, belongs to M. Prokapovitsh, who, whilst pursuing his apiarian studies, had it suggested to him by a plan adopted by Huber, for the mere purpose of being able to watch the habits of the bees. The process of working the Russian hive is as follows :

In autumn, after having taken the upper portion of the crop, when the amount of honey admits this to be done, the part of the hive thus left empty is separated from the rest of the combs by introducing the adapter, and placing upon it the winter cover. In this state the hive is conveyed to some suitable place to pass the winter. The following summer, at the arrival of the season, when the plants from which the honey is to be collected is in flower, the board is removed and the frames placed upon the grating. These frames which are made of very thin stuff, have a length equal to the depth of the hive; their height is about half their length, and their width or thickness ought not to exceed *one inch and a half*. Two sides of the frames have, as already described, two notches or hollows which reduce their width, one of them is the long side that comes in contact with the grating, affording passage to the bees, while the other is the end near the door, which admits the movements of the bees to be inspected. Before these frames are arranged in their place, a little comb or dry wax is stuck along the middle of the frame (the side which is not notched out) This is for the purpose of directing the bees where they must place their combs. By the arrangement described, the bees finding above them a vacant space, commence their work in it, and finding in the flowers in bloom sufficient material to fill the cases with honey, and this they do with the more rapidity from the circumstance of the Queen being separated by a space not yet occupied with the combs, and her inability to reach these to lay her eggs in them. The honey thus obtained is of remarkable purity and may be taken to market in the same frames in which it was originally made. These may even be packed together in cases, and transported in wagons to great distances without doing the least injury to the honey.

The minute description of this hive and the management of the same as given by this eminent authority, will forever set at rest, the question whether the "movable frame" was of American or Foreign origin.

As so much interest has lately been taken upon this subject by our progressive bee keepers and others, I intend at no distant date to give full illustrations of the hive in question, through the bee journals together with another old relic in the shape of the

"Ozier Hive" of which I have the promise from a friend now travelling in Europe.

In answer to the second question, of your correspondent, I have no knowledge. The oldest data I have of movable frames is "Wheeler's Journey into Greece", page 411, to which I refer the gentleman. "Movable frames" were without doubt among the ancients, or the bee keepers of Russia and Poland could not have made bee keeping so successful, as described by "Wheeler," "Took," "Murphy" and other travelers.

QUESTION FOR MAY.

Is the *Honey Extracted* an actual necessity for the successful management of an apiary for profit?

EDITOR MARYLAND FARMER.

The article in your January number entitled "Does Bee Keeping Pay" is very suggestive and will do good if it awakens attention among the farmers to the importance of a much neglected source of profit and of home comfort, and one which might be a matter of great interest to many a farmers boy.

But it might mislead some into the belief that *any one* might achieve the same large results which the writer of that article instances and which are in no wise overdrawn. Indeed more surprising instances of the industry of those wonderful insects are well authenticated.

I will instance G. M. Doolittle's report of 556 lbs. from each of two hives in Onandago, N. Y., and of B. F. Carroll's report of 800 lbs. from one hive in 1883 in Texas. Such results simply indicate the possibilities with rare good stock and exceptional seasons by thoroughly qualified bee masters, just as the recorded instances of 26 lbs. of butter in a week from single cows do. But they are not practical results to set before beginners.

Very many apiarists have *averaged* more than 100 lbs. to the hive with quite large apiaries, and it is admitted that that is a large average. The location and the seasons have much to do with it, and as C. H. L. well says, the skill and care of the master much more. There are already many specialists who give their whole time to this interesting pursuit. It is not for them I would write, but rather for the large number who are already keeping some bees,

or who desire to keep a few, and who lack the knowledge, or are deterred by fear of the stinging propensities of some bees from giving attention to the subject.

The nectar scented in flowers is one of the purest and most delightful sweets provided by nature. Found every where, where flowers bloom; it is especially abundant in many favored localities, and more goes to waste yearly than would supply all the people all they want. There is little doubt of this. Most every farmer could without in any serious manner interfering with his other duties, care for a few colonies of bees and secure enough honey for home use at least. Professional men have repeatedly succeeded admirably and without neglecting their special pursuits. So have mechanics. But the farmer living in nature's own laboratory, surrounded by all the activities of animated nature, has special opportunities for improving the resources so abundantly spread before him.

Wonderful progress has been made since our boyhood days in agriculture.

The timid, may fully protect themselves from the assaults of enraged bees, and all may learn how to subdue them when in that condition, but the best way is to learn by gentle treatment to keep them from it. Some of the races of bees are very gentle naturally while others are excessively pugnacious.

The Italians are the best representatives of the gentle and the Egyptian bees of the other.

The latter are therefore not bred in this country to any extent.

The Bellazona bees named by C. H. L., are Italians but they are possessed perhaps of peculiar merit through careful selection and breeding.

It is almost universally admitted that the Italians are superior in gentleness and productiveness to our native bees and that the crosses between the two, are indeed *cross*, but at the same time rare honey gatherers. The writer will with pleasure answer any questions so far as he is able; propounded through the columns of the *Maryland Farmer*, and in a future number give some hints that may be of service to beginners.

J. W. PORTER, VA.

A NEW SUIT—Faded articles of all kinds restored to their original beauty by Diamond Dyes. Perfect and simple 10c at all druggists. Wells, Richardson & Co., Burlington, Vt.

A Suggestion.

MESSRS EDITORS.

As the season approaches for exhibition and sale of flowers in our markets, will you allow me to suggest for the accommodation of this trade, the erection of a light ornamental hall of iron and glass, over the eastern end of Lexington market from Paca to Eutaw Streets. The convenience and advantages of such a structure are obvious. That the cultivation of flowers is both morally and socially beneficial is undeniable, and deserves more attention from our citizens generally than it has yet received.

A Lover of Flowers.

Having originated and established the present Horticultural Society in Baltimore, we are interested in anything looking to further its interests. The above suggestion; or something upon this plan would be a great convenience to our citizens and of interest to the Florist. Eds.]

"SEVEN."—David Tooke, Esq., Columbus, Texas, in 1879, was attacked with Black Jaundice, followed by hemorrhage of the kidneys, and was pronounced incurable. Seven bottles of Warner's SAFE Cure restored him to health in 1880, and July 1st 1884, he writes, "My health has been excellent ever since." Try it!

A Farmer in the eastern part of the State missed a couple of his cows some time ago and a diligent search and notices in the county papers failed to bring them to light. Yesterday, however, while in a field he noticed a hole in the side of a pumpkin, and, on getting a lantern and going in, he found the lost cows quietly eating pumpkin seeds and growing fat. The hole in the fruit was caused by the rapid growth of the vine, which had dragged it along over the ground for half a mile.—*Kansas paper.*

IF YOU DOUBT, TRY IT AND SEE.—D. M. Dewey, of Rochester, N. Y., Jan. 25, 1882, wrote, "One of the most prominent physicians here found 22 grains of sugar to the fluid ounce of my urine; was unable to benefit me. I then began using Warner's SAFE Diabetes Cure, and Warner's SAFE Pills. Having used five bottles of each, I found myself cured." N. B.—Mr. Dewey remains well.

KNOW THYSELF, by reading the "Science of Life," the best medical work ever published, for young and middle-aged men.

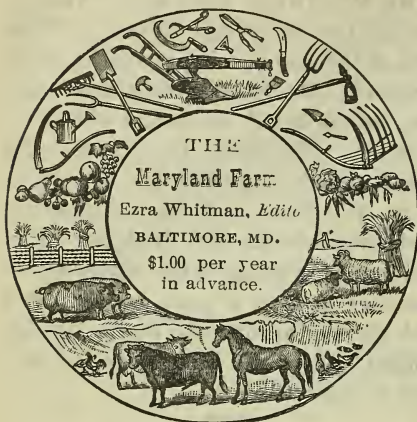
THE WINTHROP BUDGET.—We congratulate the editor and citizens of Winthrop at the manifest improvement of the "Budget." Mr. Stanley did a wise thing when he discarded the patent outside of his paper. The whole appearance of the paper is greatly improved, and every family in Winthrop and its surroundings should subscribe for the "Budget." Farmers instead of going to the village for the news once or twice a week, would find it much cheaper to subscribe to the Weekly "Budget," which will bring them the news direct to their doors.

THE Legislature of the State of Maine has passed an act appropriating annually \$500 each for the Eastern Maine Fair and the State Agricultural Society, to be expended in promoting the dairying, beef-raising and mutton growing interests of the State, provided the societies would raise an equal sum for the same purpose, exclusive of premiums.

THE TRIALS OF A MINISTER.—The Rev. J. P. Arnold, (Baptist), Camden, Tenn., in 1873 was taken with Bright's Disease, which produced two large abscesses. In 1878 another abscess formed which discharged for eighteen months. In 1881 two abscesses formed. He then began Warner's SAFE Cure, "which restored me to perfect health," and June, 1883, he wrote, "my health is as good as ever." Try it!

THE MARYLAND FARMER for March is one of the best numbers we have yet seen of its publication. It has some good and instructive articles on almost every subject of interest to the farmer or gardener. Crops, fertilizers, trees, preparation of land, poultry, flowers, vegetables and fruits, all come in for a share of instructive notice and we would recommend our country friends who have no access to this old established publication to procure a copy of the March number at once. Published by Ezra Whitman, Baltimore, Md.—*Emmitsburg Chronicle*

A CAMPAIGNER'S EXPERIENCE.—Lawrence Mix, Esq., Warsaw, N. Y., a well-known campaign orator, in 1882 took 15 bottles of Warner's SAFE Cure for kidney trouble, (after many physicians of excellent standing had given him up), and was cured. December 9th, 1884, he says, "I have had no serious return of my trouble, and so conclude that my cure is permanent."



A STANDARD MAGAZINE,

DEVOTED TO

Agriculture Live Stock and Rural Economy.

Oldest Agricultural Journal in Maryland,
and for ten years the only one.

EZRA WHITMAN, Editor and Proprietor.

141 WEST PRATT STREET,
BALTIMORE, MD.

BALTIMORE, APRIL 1st, 1885.

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Advertisements to secure insertion in the ensuing month should be sent in by the 20th of the month.

Premiums to Subscribers.

Any one of the following articles will be given free to subscribers who pay \$1.00 in advance for the MARYLAND FARMER.

Six (6) papers garden seeds of best variety

1 p'k'g Palmers plant and vine protector.

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for man or beast.

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1 copy of Kendall's Treatise on the Horse.

1 copy of Scribners Lumber and Log Book

1 copy of Scribners Grain Tables.

1 copy of *Poultry Post* one year post paid.

The above articles need no description of their merits; they range in price from 25 to 50 cents.

Any one sending \$1.50 in advance will receive the MARYLAND FARMER one year and one of the following named valuable books he may select.

The World's Cyclopedia, containing 50,000 references, 1200 illustrations, 800 pages; price \$1.00.

Everybody's Paint Book; price \$1.00.

Pallisers Model Homes; price \$1.00.

Garden and Farm Topics by Peter Henderson, price \$1.50, will be given with the MARYLAND FARMER for \$2.00.

One new Meat Chopper, No. 10, family size, price \$3.00, with the MARYLAND FARMER one year for \$3.25.

One Howe Sewing Machine, new, warranted first class, price \$50.00, will be given for 20 new subscribers to MARYLAND FARMER.

One Young America Corn and Cob Mill, warranted first-class in every respect, price \$40.00, will be given for 25 new subscribers to the MARYLAND FARMER one year.

The Agricultural Grasses of the United States.

BY DR. GEO. VASEY,

Botanist of the Dept. of Agriculture.

ALSO,

The Chemical Composition of American Grasses.

BY CLIFEORD RICHARDSON,

Asst. Chemist, Dept. of Agriculture.

Those who remember the old "Patent Office" Reports on Agriculture, which usually were published two or three years after the date they bore, and, so far as anything in them fresh or of practical value was concerned, might have as well been dated forty years back, can well appreciate the frequent appearance of the valuable pamphlets now issued by the Agricultural Department, which are the work of experts in the various departments of science. At no time in its history has the Department of Agriculture had a more effective corps of Scientists than at present, and none of its publications of late are likely to be of more practical value to our agriculture than the one under consideration. The culture of the grasses lies at the foundation of all improvements in farming and a proper knowledge of the comparative value of the different varieties, either for hay or pasture, in the diverse soils and climates of our widely extended country, is of the greatest importance. A grass which is of the greatest value in one section of our country and on certain soils, may be either worthless or a positive nuisance on another. The value then of the work of Dr. Vasey, if properly distributed among our farmers, in making them acquainted with the peculiarities of various grasses, and their adaptation to certain soils and climates, can hardly be over-estimated. If this kind of knowledge was more generally distributed, we would no longer have the farmers of our limestone

valleys asking for seed of Johnson Grass (*Sorghum Halapense*) or of Burmuda Grass (*Cynodon Dactylum*) which, with them would prove an unmitigated nuisance, but each farmer in our wide country would know the species most likely to prove of value to him, and would be saved from annoying and expensive mistakes. Its value is increased by 120 accurately drawn and handsomely engraved plates of the different varieties. To one who has never given special study to the subject of grasses, the great number of varieties here shown to be either indigenous or naturalized in our country will be a revelation, and a study of special interest. We would like to give some extracts from this book, but must defer for lack of space.

A Marvelous Butter Yield.

TEST OF JERSEY COW PRINCESS 2D.

We see it stated that the test resulted in a total yield in seven days of 299½ lbs. of milk, from which were churned 44 lbs. 1½ oz. of unsalted butter, which, when salted at the rate of one ounce to the pound, gave 46 lbs. 12½ oz. of salted butter ready for market.

Princess 2d 8046 was calved Feb. 22d 1877, and was, therefore, exactly eight years old when this test began. Her weight is 1,125 pounds, and she carries no superfluous flesh, being fine in bone and muscle.

Her calf was dropped Dec. 31st, 1884, seven and a half weeks before the beginning of this test, for which she was prepared by six weeks of high feeding, which so enriched her milk that during the test only 6 4-10 lbs. of milk were required to make a pound of butter.

FIFTEEN YEARS.—Jno. L. Clark, M. D., Waterloo, N. Y., in 1881, was prostrated with Bright's Disease, crick in the back, rheumatism and malaria. From the latter he had suffered for fifteen years without help. In 1884, he says, "Warner's SAFE Cure cured me and I am sound and well." If you doubt, ask your neighbor!

AT THE eighth annual meeting of the Dutch-Friesian Association of America, held at Detroit, Michigan, Feb. 4th and 5th, 1885, the following were declared elected officers of the Association for the ensuing year:

President, Dr. F. W. Patterson, Lochearn, Md.; First Vice President, Hon. Wayne McVeagh, Philadelphia, Penn.; Second Vice President, Dr. G. M. Emrick, Chicago, Ill.; Third Vice President, George F. Jackson, Minneapolis, Minn.; Fourth Vice President, Hon. H. H. Hatch, Bay City, Mich.; Fifth Vice President, Col. W. H. Hemingway, Jackson, Miss.; Sixth Vice President, Daniel J. Durnall, Goshenville, Penn.; Member of the Executive Committee, Irwin Langworthy, South Brookfield, N. Y.; Treasurer, J. B. Tuckerman, Cassville, N. Y.; Secretary, S. Hoxie, Whites town, N. Y. This is the third term Dr. Patterson has been honored with the election of President of the Association.

The Conference Committee appointed by the Dutch Friesian—H. B. Association, will meet at the Genesee Hotel, Buffalo, N. Y., to try and arrange a union of the two Associations on 16th April.

A FAMOUS COW DEAD. — The famous Holstein cow, Echo, owned by F. C. Stevens, proprietor of the Maplewood Stock Farm, Atica, N. Y., died last month. She was the most valuable Holstein cow ever known, her owner having recently refused an offer of \$25,000 for her. She had the largest milk record of any cow, of any breed, in the world. A few days before her death, she had given birth to three male calves, all of which were well-formed and healthy animals.

THE TEST OF 8 YEARS.—Dan. A. Grosvenor, Esq., United States Treasury Department, First Controller's Office, Washington, D. C., took Warner's SAFE Cure in 1878, and Dec. 29th, 1884, he wrote, "Warner's SAFE Cure in my case effected a permanent cure, and for five or six years I have experienced no trouble from what was a serious kidney affection."

Meeting of The American Oxford Down Sheep Record Association.

The annual meeting of this Association was held at Hotel Emory, Cincinnati, O., March 11, 1885. The attendance was good, but not what might have been expected. In the absence of Col. F. C. Goldsborough, of Easton, Md., the President, J. R. Shafer, Esq., of Middletown, O., was called to the chair.

Several short articles bearing upon the profit of the Oxford were read, and a general discussion of topics followed.

The election of officers resulted as follows: President, Col. F. C. Goldsborough, Easton, Md.

After the election of officers the Association partook of a dinner especially prepared for them, one feature of which was an Oxford Down roast. This mutton was furnished by Messrs. J. B. & W. A. Shafer, of Middletown, O., and was especially fattened and prepared for the occasion. After dinner the association adjourned to meet at Chicago, Ill., during the Fat-Stock Show of 1885, at which time an effort will be made to have every Oxford Down breeder present.

Syracuse, N. Y.

E. WHITMAN, ESQ.

Dear Sir:—We take pleasure in announcing to the public and the readers of the "Maryland Farmer" that Mr. Anthony Lamb, who has been with us for the past twelve years as book-keeper and cashier, is now a member of the firm.

The new firm will be Smiths, Powell & Lamb.

SMITH & POWELL.

FIGURES WON'T LIE.—The figures showing the enormous yearly sales of Kidney Wort, demonstrates its value as a medicine beyond dispute. It is a purely vegetable compound of certain roots, leaves and berries known to have special value in Kidney troubles. Combined with these are remedies acting directly on the Liver and Bowels. It is because of this combined action that Kidney-wort has proved such an unequalled remedy in all diseases of these organs.

THE POULTRY-HOUSE.

Chapters on Chickens.

BY EXPERIENCE.

CHAPTER IV.

GET YOUR CHICKENS.

1. After building your houses and yards, and your nests for eggs, begin to look about for your chickens.

2. The first question that comes up—and a very perplexing one it will prove to the beginner—will be, what kind of chickens shall I choose?

3. You want good layers, good mothers, good sellers in market, hardy, contented, affectionate, active chickens. Not wild, restless, quarrelsome chickens.

4. Good layers are birds that lay well not only in warm weather when eggs are plenty and cheap, but that may be depended upon also in the winter when eggs are high and scarce.

5. Good mothers are birds that are attentive to their eggs when sitting, do not desert their nests, care well for their chicks when hatched, and are ready always to defend their broods when in danger.

6. Good sellers in market must have good breasts, yellow legs, and yellow skins. Such will bring three or four cents more a pound than chickens with dark legs, or white skins, or small breasts.

7. Hardy chickens are needed that the chicks may survive the exposure to the cold winds of early spring, which is often unavoidable, unless constant attention and warm quarters are provided.

8. Contented, affectionate chickens are needed, so that when their yards are entered they will not be frightened and attempt to escape from the enclosures.

9. Active, sprightly chickens are needed, for unless a chicken is wide awake and will scratch for a living, the egg basket will remain empty.

10. I do not advise you to choose the common barnyard fowl, although this is better than none.

11. It will pay you to visit some one who has made the business a specialty and examine the stock, for you are never very far away from some specialist in poultry.

12. If you have plenty of room and want the greatest possible number of eggs

in a year, without regard to other qualities, you will get the Leghorns.

13. But the Leghorns are great flyers and cannot easily be kept within bounds. They are comparatively small. They have large combs, which are apt to get frost bitten, so that they lay most of their eggs in warm weather when eggs are cheap. They will get into the garden and cause much trouble.

14. The French breeds (*Houdans, etc.*) are larger, less flighty, good layers in warm weather, good for the table, but they are not mothers.

15. The Spanish breeds rank with the Leghorns as to the disposition to wander into forbidden pastures, but are prolific, with large, attractive eggs.

16. The English Dorkings are excellent table and market birds; but only moderately prolific.

17. Many fancy birds are very pretty to look at, but fail when brought to the table or to market.

18. The games lay well, are hardy, good table fowls, the best of mothers; but are very flighty and very quarrelsome.

19. The Plymouth Rocks, if of large size, are among the very best both as layers and as table birds. They are good mothers, as are the American Dominiques also. The Plymouth Rocks, if of small size, will fly and wander. It is difficult to keep them of large size, as they have a tendency to dwindle.

20. The Asiatic poultry are very large, lay well in winter when eggs are most valuable, can be easily kept in close quarters, are hardy, extra good as market and table birds and good mothers.

21. It is not necessary that we should particularize each breed and their peculiarities. We have mentioned enough. The Asiatic breeds are our favorites, and we advise one of these. They are all good.

22. We have chosen the pure blooded Light Brahmas, and we have not thus far found any breed to take their place. We advise all who are at a stand what to choose, to select these. They can be relied upon both winter and summer.

23. We advise you to choose only one breed and devote your attention to that until you have gained thorough experience in the business.

24. Having chosen your breed, get them pure from a reliable source; and not

more at first than one yard.

25. In one yard may be kept eleven hens and one cock; but very few commence with as many as this. Get whatever number, from three to twelve, you may chance to desire.

26. The best time to get them is in October or November; but no time is forbidden. They cost most in the spring; and the best are generally scarce at that season.

27. Get them, put them in their yard, look at them and admire them. Feed them, water them, study them well. They will soon begin to lay.

28. It is always best to get the chickens in preference to purchasing eggs for hatching. It is better to purchase a sitting of eggs than not to have pure bred fowls. In this latter case a common barn yard hen will make a good mother.

Langshans.

BY A. L. B.

The Langshan is a noble bird with beautiful glossy black plumage, rather large comb, straight and evenly serrated, long deep body, full broad breast, and a stately carriage.

Blue-black legs showing pink between the scales, toes small and the outer one slightly feathered, pinkish on the bottom and webbing of feet. As a fancy fowl it is universally admired.

Viewed in a profitable light they are good layers, and mature very fast, they possess a delicacy of flesh, which with their plump appearance renders them excellent for the market.

They were first introduced into this country by Major Croad, Durlington Worthing, England, about six years ago. Previously, they were imported to England from China by a nephew of his.

I have understood, he was a scientist, in the employ of the English Government, and resided at that time, in the north of China.

His letter to his uncle was as follows:

"I send you some fine fowls by the steamer Archilles. They are clear black, and are called *Langshans*. Look out for their arrival, and send for them without delay."

Later on he writes—

"The fowls I am sending you are *very*

fine. Their plumage is of a bright glossy black. I have never seen any like them before. The Chinese say they are allied to the wild turkey; they are very valuable birds, and you must be careful of them."

Upon their arrival they received quite an ovation, people crowding to have a look at them, and asking if they were for sale.

The captain of the steamer said, "although he had been to China several times, he had never met with any fowls like these before." This then was the first introduction of Langshans into England, and they deservedly became popular at once. A few years later they were imported to America and were immediately seized on, as favorites, by fanciers.

Their popularity has increased with farmers, as well as all others yearly, until they rank now next to Wyandottes, and indeed, only require to be more generally known to become their rivals.

They are less clumsy than any other large variety of fowls, and good setters, and not as persistent as the Cochins, and do not require the red flannel remedy or frequent dips, to break their wills.

On the contrary are quiet and easily managed.

So if you wish an investment that will yield quite a nice percentage, purchase a pen of Langshans. Be very careful to keep their surroundings clean and free from vermin, with fresh drinking water before them every day, and a variety of food, then success will follow, as a matter of course, and you will like the poultry business extremely. But *vice versa* bad management, dirt, disease, death, its attractiveness suddenly vanishes.

HIGHLAND POULTRY YARDS,
Towson, Md.

For the Maryland Farmer.

Plymouth Rocks.

The Plymouth Rock fowls come nearer the ideal farmers fowls than any breed now before the public. They have been thoroughly tried in almost every locality, and are the most popular breed for "general purpose" fowl. Being of American origin they are more hardy than most of the Asiatics, standing the extremes of heat and cold better than those breeds.

Their good points consist in their hardiness, quick growth, quick feathering up,

good size, fine yellow meat, good layers of richly flavored eggs, good setters and mothers, of quiet and peaceful habits, not "high flyers," and excellent foragers, willing to hunt their own living.

Though modest in dress they are a showy fowl, presenting a beautiful appearance in in the flock, but are somewhat difficult to breed to a feather, the hens being inclined to run too dark, and the cocks too light. In size they are outdone by many of the large breeds, but they are large enough to suit any one whose object is breeding for profit in eggs and meat. They are rather too plain and matter of fact a breed to suit the majority of fanciers breeding for pleasure. But the farmer finds in the "Plymouth Rock" the fowl for his purpose. A cross of a P. Rock cock upon a flock of common fowls in a single season works wonders, nearly all will partake in some way or other of the good qualities of the sire, and the "sizing up" of the flock will be remarkable, making quite a difference in the profits at the close of the year.—R. S. C.

PERMANENT SECURITY.—T. O. Lewis, San Francisco, Cal., Oct. 28, 1881, says, "I have suffered for ten years with congested kidneys, and have passed stones ranging in size from the head of a pin to a pea, which caused strangury of the neck of the bladder. The best physicians in this city said I could not recover. I used four bottles of Warner's SAFE Cure, and got rid of four calculi." Writing June 23d, 1884, he says, "The cure effected in 1881 was permanent."

Books, Catalogues, &c. Received.

From Cushings & Bailey we have received, "Prairie Experiences in Handling Cattle and Sheep," by Major W. Shepherd, R. E. It is an interesting volume for everyone who is engaged in these specialties, and is entertaining to the general reader. Its general appearance and "get up," in print and in binding, show the customary excellence of the Orange Judd Co., of New York. We have also received from Cushings & Bailey, pamphlets on The Tobacco Remedy, by Gen. T. L. Clingman, and on The Peanut Plant, by B. W. Jones. These will well repay the careful reader for all time spent in their perusal. They are from the press of the Orange Judd Co., New York.

The "New Guide to Rose Culture" of the Dingee & Conrad Co., West Grove, Chester Co., Pa. received. It is rich in beauties; the colored plates deepening our love of this queen of the flowers.

"Seed Catalogue of Moreton Farm," Joseph Harris, Rochester, N. Y. The originality of his

remarks impress one who only casually reads this catalogue. The American Agriculturist, of New York, is fortunate in securing the contributions of our old friend to its columns.

Catalogues of Thomas Meehan, Germantown Nurseries, Philadelphia, Pa. Thomas Meehan has been for years one of the few to whom appeals are made for approval, as to an expert in his line.

With pleasure we record the arrival of "Duer's Garden Calendar," 130 pages, full of everything that can possibly be needed in the garden. It will pay you to address Henry A. Duer, 714 Chestnut St., Philadelphia, Pa.

"Catalogue of Mt. Hope Nurseries," Rochester, N. Y., Ellwanger & Barry, with colored plate of their new gooseberry. An old established firm whose statements may be depended upon.

A very valuable annual hand-book and repository of all matters pertaining to newspaper advertising, has just been issued by Messrs. Lord & Thomas well known advertising agents. It consists of 264 pages, and contains a number of pages of thought and experience absolutely necessary for successful advertising.

A Book about Poultry, containing 100 pages, fine illustrations of all the different breeds, plans for houses, directions for doctoring, etc., and having a beautiful colored lithographic frontispiece of a group of land and water fowls, has been received by us from the Associated Fanciers, 237 South Eighth St., Philadelphia. They will mail it to any address on receipt of 15 cents.

'How John's Wife made Money with Bees, Silkworms, Chickens and a Cow.'" Not only a very readable and enjoyable production; but one containing many useful suggestions of a practical character.

A present to every lady. A 25 cent book on Art Needle work and Crazy Patchwork, with 100 new stitches and transferable designs and full instructions for the work, will be given to every new subscriber to Strawbridge & Clothier's Fashion Quarterly. The Fashion Magazine contains 120 large pages with over 1,000 illustrations each issue, and is the cheapest magazine in the world. Cut out this notice and mail with 50 cents, the price of a year's subscription, to Strawbridge & Clothier, Eighth and Market Sts., Phila.

One of the handsomest and most unique and original ideas in chromo-lithography is the "Columbia Valentine," just issued by the Pope Manufacturing Co., of Boston, Mass.

"Lovett's Guide to Fruit Culture," is a valuable work on Horticulture, giving, as it does, full instructions for planting, pruning, culture and management of fruits of all kinds. It is a book of over 70 pages, elegantly printed and embellished with hundreds of engravings and several colored plates true to nature. Send to J. T. Lovett, Little Silver, New Jersey, and get a copy. See advertisement in this number.

T. S. Hubbard, Fredonia, N. Y., catalogue of Grape Vines and Small Fruits received.

From Jas. J. H. Gregory, of Marblehead, Mass., his large annual illustrated catalogue of warranted seeds. This house is an old one, and Mr. Gregory is a well-known writer of agricultural works, his catalogue is free to all.

Wm. E. Bowditch, 645 Warren St., Boston Mass., flower and seed catalogue, with special prominence to the floral department.

From Frank Ford & Son, Sunnyside, Ravenna, Ohio, Catalogue of Small Fruit Plants, etc

From Robt. Buist, Jr., of Philadelphia, Catalogue of Garden Seeds he guarantees the safe delivery of all orders entrusted to him.

A. S. Cowan & Co., New York City. their seed catalogue for 1885.

C. B. Rogers, 141 Market St., Philadelphia, "Wholesale Price-List of Garden Seeds for 1885."

From H. S. Anderson, Union Springs, N. Y., Catalogue of Small Fruits, &c.

From Isaac F. Tillinghast, La Plume, Pa., Catalogue of Reliable Seeds, Mr. Tillinghast publishes also a very neat monthly called "Seed Time and Harvest," 50 cents a year.

From Johnson & Stokes, of Philadelphia, Pa., their annual Seed Catalogue, also a special box of seeds, for which they will accept thanks.

Catalogue of Joseph Breck & Son, Market St., Boston Mass. One of the beautiful catalogues that show attention to the wants of customers Seeds, flowers, vegetables, &c.

Corn and Potato Manual, J. C. Vaughan, Chicago, Ill. Ample directions for culture and choice seeds.

From Montebello Stock Farm, estate of Jno. W. Garrett, Baltimore County, Md., Joseph Cobb, Manager, Catalogue of Stock. There is upon the Estate no less than eight valuable stallions, twenty mares and fifty colts from one to three years old. Descriptions of all the stock will be found with the pedigrees in this Catalogue just published, a copy of which can be had by addressing Mr. Cobb, Homestead, Baltimore City, Md

"The Commonwealth of Georgia, Part I.," by J. T. Henderson, Commissioner of Agriculture, for Georgia. This pamphlet gives a general view of the people, the country and the productions of that state; affording much information needed by those who would seek a home in that region.

Report on yield of crops per acre, on Agriculture in Mexico, and on Freight Rates of Transportation Companies. This is received from U. S. Dept. of Agriculture. The reader will be surprised upon reading Col. Hinton's article upon Mexico, packed as it is with so much, showing an intimate knowledge with that country.

The March number of "Babyhood," the novel magazine for mothers, contains: "The Accidents and injuries of Early Childhood and their Prompt treatment, &c., &c." [15 cents a number; \$1.50 a year. 18 Spruce Street, New York.

The "Dorcas Magazine," a periodical devoted to the interests of Women and the Home, has completed its first year's work. Its pages are filled with plain directions for making an infinite variety of useful and decorative articles, and its aim is evidently not only to help women to employ their time in a useful and pleasing manner, but also to be of service to those whom necessity compels to labor. Price \$1.00 per year. Sample copies sent to any one on receipt of 10 cents. Address, Dorcas, 872 Broadway, New York City.

Catalogue of Plants, Flowers, Vegetables and Field Seeds from the well-known house of Robert J. Halliday, Balto., Md. One of the most valuable catalogues thus far received for 1885.

From Jas. A. Everitt, of Watertown, Pa., his Catalogue of O. K. Seeds, for 1885.

"Manual of Agriculture, for the school, the farm, and the fireside," by Geo. B. Emerson and Chas. L. Flint. A New Edition. — Revised by Dr. Chas. A. Goessmann, Prof. of Chemistry, Mass. Agricultural College. — This book was originally prepared at the special request of the Massachusetts State Board of Agriculture, for the purpose of making a work which would be the foundation of a complete agricultural education. Its aim is to teach how we may co-operate with the great powers of nature and control them for our own purposes, making the most useful, as well as the most interesting study that can be presented to the inquiring mind and showing what may be accomplished by judicious thrifty and economical management. Cloth 12mo. Price Post-paid, \$1.50. Published by Orange Judd Co., New York City.

We acknowledge the receipt from the Department of Agriculture, first annual Report, of the animal industry containing plates, maps, &c., highly interesting and instructive. Also the Report of the Commissioner of Agriculture, for 1884, which is full of useful information to the agriculturist, and which we shall refer to hereafter.

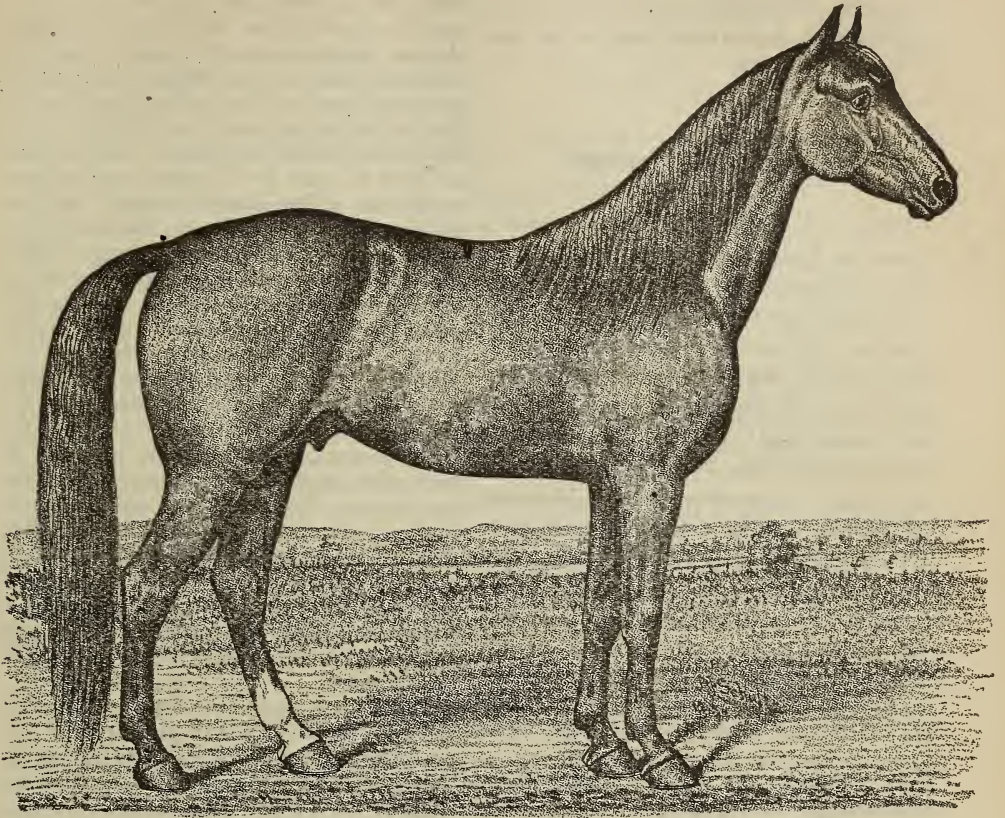
From same Department a report of exhibits at the World's Industrial and Cotton Exposition at New Orleans, La., by J. R. Dodge, statistician of the Department of Agriculture.

From State Department, Reports from the Consuls of the United States on Agricultural Machinery.

C. W. Dorr & Co., Des Moines, Iowa, Catalogue of Iowa seeds.

From Niagara White Grape Co., Lockport, N. Y., Catalogue of their New White Grape Niagara which has received a favorable notice before, and we again recommend it to our friends as one of the best grapes now before the public. The catalogue also contains a few hints about the planting and general management of vineyards.

NEVER.—Mrs. Helen Leikum, West McHenry, Ill., two years ago used Warner's SAFE Nervine for complete nervous prostration. August, 1884, she wrote, "I have never enjoyed such good health, have had no return of my old trouble." Try it.



AVONMORE.

Poplar Grove Stock Farm.

In calling attention to the advertisement in this issue, of the Trotting Stallion Cyclops 2035, record 2.27, we are pleased to call the attention of horse breeders to one of the finest and fastest stallions in Maryland, picture and pedigree of which we have given in a former number, and we now with pleasure present to our readers and breeders a true picture of Avonmore 2,255, who represents some of Kentucky's best blood. He is a Hambletonian horse of the highest order of breeding, one who individually will be found to be of rare merit and the blood in whose veins flows from the richest sources—a Strathmore and an Almont; a combination of the great Hambletonian 10, Mambrino Chief 11 and Pilot Jr. 12; the forerunners of the fastest

speed at the trot. This blood is represented in Maud S., 2.09½; Jay-Eye-See, 2.10; St Julian, 2.11¾; Maxy Cobb, 2.13½; Phyllas, 2.13¾; Clingstone, 2.14; Goldsmith Maid, 2.14; Trinket, 2.14; the eight fastest trotters the world has produced. This youngster was used in the stud privately at Poplar Grove last year and was very successful as a foal getter—Mr. Emory breeds 8 to him this season and allows the public the privilege of breeding 22 mares only—Avonmore promises to be a very fast trotter himself owing to his being in the stud he has not been trotted at all publicly. His sire Strathmore has 16 in the 230 list, his grand-sire Hambletonian has 38, and the sire of his dam, Almont, has put 22 there, his dam Arline trotted in 2.40 and is also the dam of a full brother to

Avonmore, Chandos 5 years, record 2.28½ and Cachuca, Arline's full sister, is the dam of Catch-fly, 2.18½.

For the Maryland Farmer.

Holsteins and Jerseys.

While the Holsteins are having quite a boom, the Jerseys are on the wane. I am a warm friend of the Holsteins, and yet I am inclined to think that when the two breeds are properly adjusted not a little of their prestige will be restored to the Jerseys. For certain purposes the Holsteins are unsurpassed; and the same thing is true of the Jerseys. Just at present it is the popular impression that the Holsteins are likely to supplant the Jerseys altogether; but this will never come to pass. The Holsteins are bound to encroach upon the Jerseys; but they will encroach yet more on the short horns.

As a milk producer the Holstein is unsurpassed. Among milk breeds the Holstein deservedly stands at the head. This is not because of quantity of production only, but because the quality is fully up to the average. I know there is a popular impression that the milk of the Holstein is of very poor quality. But whenever tested, this milk has exceeded expectations. A short time ago the patrons of a New England creamery complained against a farmer who furnished Holstein milk, claiming that it was unjust to them to allow him the same price paid to them. The milk from various sources was tested; and it was found that the Holstein milk was better than the average furnished the creamery. Similar tests have given the same results. It is true that in quality the Holstein milk can not compare with the Jersey; but with the milk of other breeds it can court comparison.

The honor of the highest butter record belongs to a Holstein, and yet the Holstein may not be the best butter cow. It is not the cow which makes the most butter in a certain time that is the best butter cow; but the cow that makes the most butter and from a certain amount of food. Here the Holstein and Jersey are very

nearly on an equality. There may be a slight advantage in favor of the Jersey. As the Holstein has the larger body, it must use more food to supply the wants of the body, leaving less for milk production. But on the other hand, one Holstein produces more than one Jersey, and it is just as easy to care for a large cow as for a small one. The Jersey is tender and must have good shelter and care; it is dainty and will not eat well coarse or damaged food. The Holstein is more hardy and less fastidious; it endures exposure as well as any other pure-bred animal and will eat coarse food. All these are points in favor of the Holstein. Yet I am of opinion that where the cows are kept confined and butter is the only product desired, the Jersey is the better animal. The Holstein does not do well when kept in close quarters, and the Jersey does. The Jersey is very quiet and docile. For these reasons I am inclined to think that the Jersey will always hold its place in our city, near butter dairies, and therefore I say the Holstein will never altogether supplant the Jersey. For the specific purpose mentioned the Jersey is the best adapted.

But it is as a general purpose animal for the mass of farmers that the Holstein will become the most popular. The farmer desires beef, milk and butter; but he does not want to keep three different breeds upon his farm—one for butter, another for milk, and yet a third for beef. This would occasion too much trouble and expense. Hence he desires a breed that will combine all three productions; and the Holstein is a nearer approach to such ideal breed than any we have. As a milk breed it is superior to all others; as a butter breed it is inferior to only the Jersey; as a beef breed it is but little inferior to any. The large body which alone makes it inferior to the Jersey as a butter animal, makes the Holstein a good beef animal. If a cow is not desired in the dairy, she can be fattened for the butcher at a profit. The male calves need not be vealed; they can be grown into profitable beef. This beef is of the best quality. This combination of qualities will commend the Holstein to the farmer; and as a result it will in time become the most widely diffused of all the breeds, and will encroach more upon the shorthorn than any other.

JOHN M. STAHL,
Quincy, Ill.

Weight of Sheep.

But few farmers are aware of the heavy weights sometimes attained by the large breeds of sheep. Some of the breeds, as managed in England, exceed 300 pounds. The average weight of ten months' lambs, at Smithfield, England, in 1884, shows that the growth of those lambs from the special breeds is very rapid. The lambs of the Hampshire and Wiltshire Downs averaged 204 pounds; cross-breeds, 188 pounds; Oxfordshire, 178 pounds; Cotswold, 176 pounds; Shropshire, 153 pounds; Southdowns, 161 pounds; Leicester, 129 pounds. At the age of 21 months, the weights were as follows.—Hampshire and Wiltshire Downs, 293 pounds; Oxford, 292 pounds; Lincoln, 283 pounds; Cotswolds, 282 pounds; cross-breeds, 270 pounds; Kentish, 253 pounds; Leicesters, 254 pounds; Shropshires, 239 pounds; Southdowns, 216 pounds. Here we notice that the Southdowns fell but little below the Leicester at twenty-one months, and exceeded them at ten months. The above showing is a creditable one for the Southdowns, and confirms their position as one of the best breeds that can be used for improvement.—*St. Louis Journal of Agriculture*.

"WONDERS."—E H Beckwith, Norwich Conn., Dec, 18th 1884, stated, "I owe my life to Warner's SAFE Diabetes Cure; when I began its use I passed ten quarts of water daily, which contained 14 per cent of sugar; after using seven dozen bottles my doctor pronounced the water free from sugar; it has done wonders for me."

THE *Farmers Review* speaks of examining some ensilage from uncut corn stalks. This ensilage was prepared by Dr. Pratt, of Elgin, Ill. The *Review* has this to say of it: It was cured in a simple earth pit. It has a slight acid taste but there is no indication of mold or decomposition. Its color when taken out of the silo, the doctor says, is a dark green, which turns to a yellowish brown on exposure to the air. The doctor says it is better than any cut ensilage he has ever made and that his stock eat it with avidity. Out of an eighty-ton silo filled with it there will not be to the amount of one load spoiled.

FRANCIS I. DOW, assistant police marshal, Taunton, Mass. three years ago was cured of stone in the kidney and bladder by Warner's SAFE Cure, and in June, 1884, he wrote, "I have not seen a sick day since I began Warner's SAFE Cure and never felt better; have gained eighteen pounds."

Meeting of Farmers

AT THE NEW ENGLAND AGRICULTURAL HALL, BOSTON,
SATURDAY, FEB. 28, 1885.

DISCUSSION ON SHEEP HUSBANDRY.

PHONOGRAPHICALLY REPORTED FOR THE MASS. PLOUGHMAN.

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ADDRESS OF HON. JAMES S. GRINNELL.

Mr. Chairman—I have been asked to read a paper this morning, not as a lecture of instruction, but simply as an essay on sheep, to serve as a sort of conversation period to open the discussion, which will take a practical turn which the paper will not altogether present.

In all ages the sheep has been a prominent representation of rural husbandry, profitable and eminently respectable from the time that Abraham the first keeper of sheep, made to the Lord an acceptable offering of the firstlings of his flock,—early lambs,—and many hundreds of years after,—that great farmer and flock master, Job, reckoned among his stock—fourteen thousand and sheep.

PRINCIPAL BREEDS IN MASSACHUSETTS.

I do not purpose to go into a minute history of the introduction of sheep to this country, but simply to indicate the principal breeds, with which we have been stock-ed in Massachusetts.

The first seem to have been brought in 1629.

LEICESTERS.

The Leicesters originated in the county of that name and were large, coarse, inferior animals till Robert Bakewell something over a century ago, commenced their improvement, and by care, selection, and breeding steadily for one purpose, he made them the best mutton sheep in the world, at that time, not caring whether they had any wool or not. He bred them so close and so fine as greatly to impair their constitution, which subsequent breeders have been obliged to build up.

The Leicesters are hornless, have long, slim, white faces, straight backs, well sprung ribs and very heavy breasts. Where well sheltered and cared for, their crosses

are everywhere valuable. Pure bred animals are not suited to our climate and general treatment.

THE COTSWOLDS.

The Cotswolds come from the county of Gloucester, a section of which was early noted for its wool production; its sheep were so highly prized that four hundred years ago a number were exported to Spain by Royal permission. Cotswold is a favorite for crossing on other breeds by which grade animals are produced.

SOUTH DOWNS.

The Chalk Hills called Downs, in the county of Sussex in the South of England, are the home of the South Downs, now so famous all over the world, not only for themselves, but as stamping their characteristics on every breed upon which they have been introduced, and this they owe to the prepotency of their blood continued down unmixed for nearly a thousand years.

But the South Downs were not always what they are now; just about one hundred years ago an enterprising sheep owner, Mr. John Ellman commenced the improvement of the South Downs, by selecting judiciously and breeding most carefully. This was afterward continued with equal skill by Mr. Jonas Webb—who with others has brought these beautiful animals to their present perfect condition. Their pleasant dark faces—their broad straight backs, their deep briskets and splendid legs of mutton are everywhere known. For this part of the country they are beyond doubt the most valuable sheep we have, either pure bred or their grades, and are deservedly the most popular.

HAMPSHIRE DOWNS.

From the South Down bred on to the old white-faced, horned sheep of Hampshire and Wiltshire, come the grand Hampshire Downs,—but the strong blood of the South Downs, has done away the horns, and given them its own dark face. They are large, heavy sheep, producing splendid hardy lambs, with a good fleece, and an admirable leg of mutton—and they impart their characteristics wherever used.

SHROPSHIRE.

The Shropshires were produced by breeding the South Down, on the small dark faced horned sheep of Shropshire—on the border of Wales. They have now become one of the most popular breeds in

England, bearing all the excellent characteristics of the Downs.

OXFORD DOWNS.

The Oxford Downs were large white-faced sheep, but under the influence of the South Downs, and the Hampshire Downs and with an occasional dip into the Cotswold, to add to, and to keep up the size,—which has been done with all these breeds improved by the influence of South Down blood,—they have become very grand sheep with a good fleece, heavier than the Cotswold, and somewhat finer; they are very likely to drop twins, and are very capable of raising them. All of these Down Sheep are worthy of our attention and care, valuable for improving any sheep we have.

MERINOS.

The breed of sheep however, which in its production of fine wool, has been the most important in the history of the world,—is the Spanish Merino. Long before the Christian era, the finest garments worn by the nobility and wealthy citizens of Imperial Rome, were woven from the fine wools of Truditania, Andalusia and Estramadura, in Spain. Subsequently the original Spanish sheep were raised and improved by the Moors who brought with them fine sheep from Northern Africa, which they had carefully cultivated, and from whose fleece were woven fabrics of superlative quality.

In 1809 President Madison was inducted into office in the first inaugural suit of American broadcloth—the coat from Col. Humphrey's flock and mill—and the waistcoat and small clothes from the flock of Mr. Livingston of New York. Arthur Scholfield is said to have woven the cloth, at any rate in 1804 he wove the first piece of fine broadcloth from Merino wool at Pittsfield, that was made in this country. Many of Col. Humphrys' importations came up into this State.

The most important early importation however was by Mr. William Jarvis, American Consul at Lisbon, in Portugal, who seized an opportunity to buy some of the finest sheep in Spain, the confiscated property of some wealthy nobleman, and sent to different parts of this country about thirty-eight hundred fine Merinos. These and others distributed over the whole States bordering the Atlantic coast soon changed the character of the wool and wool growing of the country.

MAKING A BREED OF SHEEP.

Mr. Wetherell.—Prof. Agassiz says that a breed is the work of man, but a race's history you don't know anything about any more than that of the Holstein cattle or the Devons or the Herefords. In regard to this point I wish to be understood now to be touching upon what has been found that we can do in improving or grades of cattle. If we have made a breed of sheep and a breed of hogs, and we have done both, then I believe that when we say we cannot make a breed of cattle we are in error. The leading feature in the sheep show at Shrewsbury in 1884, was the Shropshire sheep, a breed that has been made within the memory of gentlemen before me. That shows that a breed can be made or formed in domesticated animals by crossing different bloods. This Shropshire breed was made from a great diversity of races that then existed.

“O! SUFFERING WOMAN!”—C. F. B. Haskell (formerly of Vernon, Vt.) now locating engineer on the B. C. R. and N. Railroad, Dakota, stated in 1883, that his wife was utterly prostrated with female difficulties and did not seem to be amenable to physicians' remedies. She could not sleep, trembled like a leaf, periodically lost her reason. They then began the use of Warner's SAFE Cure. Writing in July, 1884, from Dakota, Mr. Haskell says, “My wife has never seen the slightest inclination of a return of the difficulties Warner's SAFE Cure removed.” Try it, O, suffering Woman!

THE Ashley Phosphate Co., manufacture fertilizers of best materials, carefully compounded, and kept uniformly up to their high standard.

Also keep constantly on hand a full stock of cotton seed meal, Nova Scotia land plaster, South Carolina Marl, fish scrap, phosphate floats, all of best grade and lowest prices. The Ashley Phosphate Co., Charleston, S. C.

THE FARMER'S HEAVY DEBT.—A Way, Navarro, N. Y., in 1879, was afflicted with neuralgia, ringing sensation in his ears, hacking cough, pain in the back, irregular urination, dropsy, nausea, and spasms of acute pain in the back. Then came chills and fever. The doctors gave him up, but after using 22 bottles of Warner's SAFE Cure, he said, “I am hale, hearty and happy.” On June 29th, 1884, he writes, “My health was never better, I owe my existence to Warner's SAFE Cure.” Cure permanent.

Gen. Morehead's Famous Suit.

The picture of Commissioner General Morehead, loaned the Exposition by the Cotton Planters' Association, aside from the magnificent likeness to the original, teaches a lesson of the march of progress and the marvelous perfection of work in the fastest time on record attained by the Willimantic Spool Thread Company. The picture shows Gen. Morehead in a suit of clothes manufactured for him at the Atlanta Exposition in 1881, and therein lies the history of a manufacturing effort without a parallel in the history of the world. The Willimantic exhibit at Atlanta, as it is now in the main building, was one of the most attractive places of interest of the Exposition. The exhibitors, however, felt that it was incumbent on them to do something hitherto unsurpassed and conceived the idea of making three suits of clothes in a day, respectively for Commissioner Gen. Morehead, Gov. Bigelow, of Connecticut, and Gov. Colquitt, of Georgia. Beginning at 7 o'clock in the morning the necessary cotton was picked up from the fields, ginned, taken to the exhibit, spun, wove, dyed, and made into clothes sewn by the Willimantic thread, thus making the suits Willimantic products in their entirety. All of this apparently impossible task was accomplished in eleven hours, and that evening at a reception the distinguished gentlemen wore suits of clothes which in the morning was yet unpicked cotton in the field.—*Times Democrat.*

A NOTABLE ARREST.—C. H. Oberbeck, Deputy Sheriff, St. Louis, Mo., in 1882 took Warner's SAFE Cure for a very severe kidney and liver complaint; he had lost 75 pounds in weight under the doctor's care. Five bottles of Warner's SAFE Cure arrested and cured the disease, and December, 1884, he wrote, “I now weigh 260 pounds and never felt better in my life. I recommend Warner's SAFE Cure.”

THE RASIN FERTILIZER CO.—This enterprising company have removed to larger and more convenient rooms in the Chamber of Commerce Building, corner Second and Holliday Sts. There occurred an error in their advertisement last month on the cover of this Journal, in regard to their location, which is corrected in this number.

Wheat Crop Looking Bad.

Farmers who visit our office bring reports from all sections; that the wheat crop is looking badly. We have visited eight different States since the middle of February and in all sections that we have traveled through, the wheat crop looked exceedingly bad. Judging from what we have seen and heard we fear this years crop will not be more than about one half of last years crop; should the weather be favorable from first of April it may greatly improve the prospects.

The following table, compiled by Mr. Tallmadge, shows the acreage sown to wheat last year, the percentage of decrease this year, and the actual loss in acres in the twenty principal winter wheat raising States:

ACREAGE.

States.	Acres. 1884.	Per cent. short.	Acres, decrease.
Kansas.....	2,120,000	35	742,000
California.....	3,360,000	10	336,000
Ohio.....	2,692,000	10	269,200
New York.....	773,000	10	77,300
Indiana.....	2,700,000	20	540,000
Pennsylvania....	1,534,000	10	153,400
Illinois.....	2,600,000	15	420,000
Missouri.....	2,335,000	10	233,500
Michigan....	1,805,000	5	90,250
Kentucky.....	1,272,000	15	190,800
Virginia.....	930,000	30	279,000
Maryland.....	645,000	25	161,250
Tennessee.....	1,336,000	20	267,200
North Carolina....	767,000	25	191,750
West Virginia....	316,000	20	63,200
Georgia.....	488,000	15	73,200
South Carolina....	232,000	20	46,400
Texas.....	560,000	10	56,000
Alabama.....	280,000	20	56,000
Arkansas.....	250,000	15	37,500
Total.....	27,195,000	..	4,283,950

Average decrease, 15½ per cent

The shortage of 4,283,950 acres in the above mentioned states at the average yield of last year 13 bushels per acre will show a decrease in the yield of over 55,000,000 bushels. Add to this the reported damage by winter-killing and other causes, which will average at least 15 per cent., these states producing last year 345,000,000 bushels, will show a further falling off of 51,000,000 bushels, making, from present indications, a total shortage in the yield of these twenty states of 106,000,000 bushels.

HORTICULTURAL.

For the Maryland Farmer.

Early Tomatoes.

A writer in the March number of the American Garden, who signs himself "Elm", appears to have proved to his own satisfaction that it is time and money thrown away to endeavor to advance the time of ripening of the tomato by sowing the seed under glass. "Elm's" article is simply a new proof that a little learning is a dangerous thing", and shows the folly of attempting to instruct others when the writer has hardly learned the A B C of horticulture himself. "Elm" states that he sowed tomato seed in a hot-bed under glass about the last of March, and twenty-eight days later sowed seed in the open ground. The hot-bed plants, when planted in the open ground he says were pale and drooped a great deal, while the plants raised outside were green and robust and grew right away. The first ripe fruit on the hot-bed plants came on August 19th, and on the out-door plants August 21st. From this, "Elm" concludes that it does not pay to forward tomato plants under glass. And we perfectly agree with him that out-door plants are much better than the kind of plants he raised under glass. At the same time nothing is better settled than the fact that it *does* pay to forward plants of tomatoes and other vegetables under glass, if properly done. "Elm" does not give his latitude, but judging from the time his open air plants ripened fruit, he cannot be far north of the writer's location, which was in an elevated valley nine miles north of Baltimore, and six hundred feet above tide-water. Soil a heavy limestone clay and by no means a favorable place for early vegetables. Here tomato seed sown outside will give fruit late in August, while by a proper method of forwarding under glass I have had no trouble in getting tomatoes in abundance the last week in June, the earliest ripening June 20th, thus making a difference of two months between the plants forwarded under glass and those sown outside. And this will always be about the difference in plants which receive no stunt in their growth. I have found that no amount of forcing will overcome the limit of age at which the tomato usually ripens

fruit, which is about four and a half months. So in order to get tomatoes two months ahead of their usual time the seed must be started two months earlier. To do this in this latitude requires that the seed be sown February 1st. But, says one, this is too early to start a hot-bed for tender plants. True, and this is just why I have long ago abandoned the manure-heated hot-bed for forwarding plants of any kind. A good fire-heated pit or greenhouse is much more convenient and in the end much more economical than the frame heated by fermenting manure. My motto is that whatever is worth doing at all is worth doing well, and while my method of growing tomato plants is much more troublesome than the old process of sowing in hot-beds, any market man knows the value of a week's advance over his competitors in the market. In the cold clay land I have described, I for years had tomatoes ripe in quantity, two weeks earlier than the market grows of Anne Arundel Co., with warm sandy soil far south of me. My method is to sow the seed in shallow boxes in the greenhouse in a temperature of 60° at night, about Feb. 1st. As soon as the plants are large enough to handle they are transplanted to other boxes at about two inches apart. As soon as they have attained two sets of rough leaves I cut the whole back to the seed leaf. This causes the eyes in the axils of these leaves to break strongly, which otherwise would remain dormant. It is the shoots produced from these eyes which always produce the earliest tomatoes. Every one who has grown tomatoes, has doubtless observed clusters of blossoms near the top of the tall plants usually grown in hot-beds, at planting time. But these blossoms never produce the earliest fruit, which always comes on shoots close to the ground. The cutting back starts these shoots earlier. By the time the plants have gotten into vigorous growth after cutting back the weather will be mild enough to allow them to be placed in cold frames at about five or six inches apart. In the frames I allow them all the air possible, only keeping them closed against frost. For a week before planting out the frames are kept uncovered night and day so that at planting time my plants are stout and dark green and as they lift with a mass of soil, they never wilt but grow right along. Plants grown in this way will produce fruit

two months ahead of plants grown in the open ground, but plants grown in hot-beds as is usually the practice, especially when sown as late as the last of March as "Elm" sowed his, and left in hot-bed till planting time, I do not consider worth near as much as plants produced in the open ground.

W. F. MASSEY.

Hints For Window Gardens.

A mistake which some, if not all, growers of house plants make at the outset, is that of trying to root cuttings in the shade, fearing that if they are put in the sunlight they will wilt. This is a mistake, especially in the case of geraneums, which cannot have too much light when rooting. Give them plenty of sunshine, and do not deluge them with water, if you would not have them decay instead of rooting. Never attempt to strike cuttings or even grow plants in any receptacle which has no drainage, or disappointment will very likely be the result.

In potting plants be careful to press the earth firmly down on the roots, and leave from half an inch to an inch, at least, space at the top of the pot, in order that the plant may be easily watered. When pots are filled to the very top with earth, watering is a tedious process, and the earth is apt to splash out on the shelves, thereby causing much unnecessary labor.

In watering, be sure to give enough so that it will penetrate to the bottom of the pot. A slight watering at the top does not reach the fine roots deep down in the pot, and this is necessary to the health of the plant. On the contrary, do not over-water. Never keep the earth in a pasty condition, or with water standing on the surface, as this will kill most plants in a short time.

Many hard-wooded plants are easily rooted by placing the cutting in a bottle of water in a light place, and supplying water as it evaporates.—*Vick's Magazine*.

TEXT FOR A SERMON TO EVERYONE —Rev. S. P. Smith, (Universalist) of Marblehead, Mass., suffered for years from bilious attacks and gall stones. In January, 1883, he was cured by Warner's SAFE Cure. June 2d, 1884, he says, "There has been no return of the bilious troubles; I have not experienced the least pain or suffering since my restoration by Warner's SAFE Cure." Cure permanent.

For the Maryland Farmer.

Oats and Peas.

As it will soon be time to sow the above crops, I will give my experience for the benefit of the readers of the FARMER.

The above crop I have grown for three seasons for soiling cows and hogs upon, and for cutting for hay, and I like it so well that this year I will put in more than ever.

I generally use corn ground—plow it in the fall—spread broadcast 5 or 6 wagon-loads of rotted barn-yard manure, when in condition to work the soil in the spring, then sow on the rough surface 2 bushels of peas (Canada field peas which cost \$1.25 per bushel), or may be the Southern cow pea will answer, though I have never tried them. The surface is then thoroughly harrowed and rolled and then 3 bushels of oats drilled per acre. By sowing the peas in the rough they are covered about the proper depth, which they would not be if sown upon the smooth surface.

Early in July this crop can be cut green for feeding to stock, and I find it a very rich and profitable crop. What I do not use green I cut first whilst the oats are in the milk—cure in large cocks, covered with a common muslin hay cap 2 yards wide and in length—and when properly cured haul it in the barn.—From a little over 3 acres last year cured thus I had 10 large wagon loads of hay, as good if not much better than the best of clover.

After the oat and pea crop is off I generally plow up the ground and sow it down in orchard grass 2 bushels—clover 1 peck, and at the same time sow 1 lb. of turnip seed and manure with some 400 lbs. of No. 1 fertilizer per acre. You thus get an oat and pea crop and your land seeded early in August and a turnip if you are near a good market that will often times more than pay all expenses.

To make the above profitable your soil *must be rich*—without being rich failure is sure.—Try a crop, but do your best by it?

PLAINS FARM.

A WOMAN'S HAPPY RELEASE. — Mrs. E. F. Dolloff, Haverhill, Mass., Aug. 6th, 1881, said she had been cured of inflammation of the bladder by five bottles of Warner's SAFE Cure. December 24th, 1884, Mr. Dolloff wrote, "Mrs. Dolloff has never seen a sick day from that inflammatory disease since Warner's SAFE Cure cured her in 1881." Cure permanent.

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HAVEN'T YOU FELT JUST SO? — Isaac N. Wood, Fishkill, N. Y., July, 1884, wrote, "It is two years ago last spring since Warner's SAFE Cure cured me. I was called a dead man but that medicine brought me to life. I take a few bottles every spring to keep me right." He was afflicted for six years with pains in the back, ending in kidney hemorrhage. Cure permanent.

WE with much pleasure call the attention of our readers to the advertisement of the well-known Horse and Cattle Powder man, David E. Foutz, of Baltimore. He claims that his "Powders" keep stock in a healthy condition, and also that they will increase the quantity of milk.

MRS. CARRIE D. T. SWIFT, Rochester, N. Y., for 25 years suffered from *hereditary rheumatism*, many times being utterly helpless, especially in warm weather. In July, 1883, she used a few bottles of Warner's SAFE *Rheumatic Cure*, and in January, 1885 said her restoration to health was as complete as miraculous. Cure permanent. Try it.